MOTHER TONGUE

JOURNAL OF THE ASSOCIATION FOR THE STUDY OF LANGUAGE IN PREHISTORY

CONTENTS ISSUE XV, 2010

i Introduction to *Mother Tongue* XV
ii Fifteen Years of *Mother Tongue*

Articles: Fifteenth Anniversary Issue 1995-2010

1 From Africa and back: some areal patterns of mythological motifs *Yuri E. Berezkin*

69 The Mesolithic Distillation of Pitch and its Ethnolinguistic Reflections: A Holocene Etymology for an Italian Verb *Francesco Benozzo*

79 The myth of rapid linguistic change III: The evidence from Greek *Jonathan Sherman Morris*

101 Yeniseian Numerals *Václav Blažek*

119 The Eight "Blood" Etymologies in Afrasian: and More *Harold C. Fleming*

149 Book Review: Lyle Campbell and William J. Poser: *Language classification. History and method* Reviewed by *Václav Blažek*

163 Notices & Miscellanea

MOTHER TONGUE **Issue XV, 2010**

Journal of the Association for the Study of Language in Prehistory

OFFICERS OF ASLIP

President:
Michael Witzel
Department of Sanskrit
and Indian Studies
Harvard University
1 Bow Street
Cambridge, MA 02138
U.S.A.
witzel@fas.harvard.edu
Tel. 617-495-3295
Homepage:
http://www.people.fas.harvard.edu/~witzel/mwpage.htm

Vice-President:
John D. Bengtson
5108 Credit River Drive
Savage, MN 55378
U.S.A.
jdbengt@softhome.net
Tel. 952-440-5538
Homepage: http://jdbengt.net/

Secretary-Treasurer:
Michael T. Lewis
20 Duane Avenue
West Newton, MA 02465
U.S.A.
lewismtc@rcn.com
Tel. 617-964-0978

MOTHER TONGUE **Editor:** John D. Bengtson (see above)

Technical Advisor: Brita M. Bengtson http://www.bmgb.net/index2.html

BOARD OF DIRECTORS

Václav Blažek (Masaryk University)
Ronald Christensen (Lincoln, Mass.)
Murray Denofsky (Somerville, Mass.)
Frederick Gamst (Los Osos, Calif.)
Phillip Lieberman (Brown University)
Jan Vansina (Madison, Wis.)
Allan R. Bomhard (Charleston, S.C.)
Gyula Décsy (University of Indiana)
Harold C. Fleming (Boston University)
John Robert Gardner (Gloucester, Mass.)
Michael Puett (Harvard University)
Stephen Zegura (University of Arizona)

COUNCIL OF FELLOWS

Raimo Anttila (University of California, L.A.)
Luigi Luca Cavalli-Sforza (Stanford University)
Vladimir A. Dybo (Russian Academy of Sci.)
Sydney M. Lamb (Rice University)
Merritt Ruhlen (Stanford University)
Ofer Bar-Yosef (Peabody Museum, Harvard)
Aharon Dolgopolsky (University of Haifa)
Vyacheslav V. Ivanov (Russ. Academy of Sci.)
Colin Renfrew (Cambridge University)
Vitaly Shevoroshkin (University of Michigan)
George S. Starostin (Russian State University of Humanities)

ISSN 1087-0326

ASLIP Homepage: http://www.aslip.org

Introduction to MOTHER TONGUE XV · 2010

Our organization, ASLIP, was founded in 1986 to encourage international, interdisciplinary information sharing, discussion, and debate among biogeneticists, paleoanthropologists, archeologists, and historical linguists on questions relating to the emerging synthesis on language origins and ancestral human spoken languages. The first issue of ASLIP's journal *Mother Tongue* was published in 1995, co-edited by Harold C. Fleming (then ASLIP President) and Allan R. Bomhard (then ASLIP Vice-President). This is an excerpt from the first Introduction, which still recapitulates our basic themes and goals:

> *Homo sapiens sapiens* and/or immediate predecessors "invented" human spoken language, intensified human social capacity, expanded human knowledge immeasurably, and (as a most impressive competitor for resources) spread around the Old World, eliminating or absorbing pre-modern humans in the process. One corollary of this is that all known human spoken languages are genetically related to each other as descendants of that first invention – Ur-Human or Proto-Language. One test of that is to show a taxonomy of human languages – convincingly to linguists – which makes possible a universal family tree and ultimately the reconstructions of major cultural events associated with the evolution of modern people. Another corollary is that the complex evolution of physical humans – population movements and shared mutations – can be figured out and related to a universal family tree which can be dated and located to its roots. Finally, the tests of these theories can be made through archeological discoveries – eventually. . . . The goal of our enterprise is to seek the truth as it pertains to the emerging synthesis about modern human origins. *Mother Tongue* is not committed to any single proposition . . .

A favorite practice of *Mother Tongue* has been to feature discussions and symposia, with invitations to several scholars to discuss linguistic proposals or methological questions. Hal Fleming has called this the "MT Treatment" (borrowed from *Current Anthropology*). So far the topics have included Basque & Dene-Caucasian (issues I & II), Nihali, Nihali & Kusunda, Sumerian (issues III & V), "Hardware" / Origin of Language Symposium, Ainu, Austric, Basque & Caucasian, South Asian substrate languages, Paleolinguistics: The State of the Art and Science, Australian languages, Asian Remnant Languages & Year of the Australoid, Nostratic Phonology, and Berber *H.

Fifteen Years of *Mother Tongue*

This is a rather sketchy summary of the issues of *Mother Tongue* to date. To save space book reviews, editorials, and minor notes have been omitted.

Issue	**Year** Honorary, commemorative, or theme	**Editor(s)**	**Languages and Taxa Discussed**	**Discussions / Symposia**	**Other Topics**
I	**1995** Inaugural Issue	Harold C. Fleming, Allan R. Bomhard	Basque, Dene-Caucasian, Canaanite & Bengali, Austric	Basque & Dene-Caucasian (R.L. Trask & 12 discussants)	Proof in Genetic Linguistics (Greenberg)
II	**1996**	John D. Bengtson, Daniel F. McCall, Roger W. Wescott	Nihali, Kusunda, Ainu, Basque, Dene-Caucasian	Nihali (Mundlay & 8 discussants) Basque & Dene-Caucasian (S. Starostin, Trask, Ruhlen)	Multilateral comparison (Greenberg)
III	**1997**	Bengtson, Wescott, McCall, Fleming	Kusunda, Nihali, Sumerian	"Hardware" / Origin of Language Symposium (Zegura, Lieberman, Donald, Fitch, Deacon)	Recommendations for Long Rangers (Benedict), S.A. Starostin
IV	**1998**	Bengtson, Wescott	Ainu, Yeniseian	Ainu (Sidwell, Itabashi, Norquest, Bengtson)	Deep classifications, Apophony (ablaut)
V	**1999**	Bengtson, Wescott	Austric, Basque, Dene-Caucasian, Sumerian	Austric (Hayes, Blažek, Blust, van Driem, Fleming), Basque & Caucasian (Bengtson & 6 discussants), Sumerian (Srinivasan, Witzel, Diakonoff, Bengtson)	Climatic influences on language, Bipeds, tools & speech, American prehistory

Issue	Year Honorary, commemorative, or theme	Editor(s)	Languages and Taxa Discussed	Discussions / Symposia	Other Topics
SPECIAL ISSUE	1999	Fleming	South Asian substrate languages, Austronesian	South Asian substrate languages: Witzel, Whitehouse, van Driem, G.D.S. Anderson, Kuiper, Masica, Mundlay	Austronesian taxonomy
VI	2000/2001 Festschrift for Roger W. Wescott	Bengtson, Mary Ellen Lepionka	Austric	Paleolinguistics: The State of the Art and Science (10 discussants)	Obituaries: Wescott, Gordon, Greenberg
VII	2002 In Honor of Joseph H. Greenberg	Bengtson	Elamite, Dravidian, Ongota, Shabo, Tasmanian, Andamanese, Eurasiatic		Greenberg's taxonomic proposals Proto-Human or Proto-Sapiens
VIII	2003 Linguistic Databases & Taxonomy Workshop (SFI)	Bengtson, George Starostin	Nostratic, Salishan & Caucasian, Basque, Khoisan		Negative Evidence (Whitehouse) EHL Project
IX	2004	Fleming	Australian languages, Kadu, Ongota, Shabo	Australian languages (O'Grady & Whitehouse)	Proto-Sapiens kinship words: (P)APA, (T)ATA, Mario Alinei
X	2005	Fleming	Kusunda, Basque, Eurasiatic		Obituaries: Livingstone, S. Starostin, Greenberg Flores "hobbits", Great Archeological Debate, Pre-Clovis site, Chinese genome, Trombetti

Issue	**Year** Honorary, commemorative, or theme	**Editor(s)**	**Languages and Taxa Discussed**	**Discussions / Symposia**	**Other Topics**
XI	**2006** Asian Remnant Languages & Year of the Australoid (Harvard / ASLIP Conference, 2006)	Fleming	Indo-Pacific, South Asian languages, Tibeto-Burman, Austroasiatic, Kusunda, Austric, Australian, Dravidian, Andamanese	Asian Remnant Languages & Year of the Australoid	Archeology of Southern Route (Harrod), Out of East Africa by 77K BP (Brooks), Population genetics
XII	**2007** In Honor of Harold C. Fleming's 80th Birthday	Bengtson	Indo-European, Nostratic, Kartvelian, Bangi Me, Shompen, Dravidian	Nostratic Phonology (Bomhard, Sidwell, G. Starostin)	Obituaries (Orel, Helimski, Bender) Glottochronology, Genetics
XIII	**2008** Commemoration of Ann Arbor Language & Prehistory Symposium (1988)	Bengtson, Bomhard	Milyan, Nostratic, Uralic, Chukcho-Kamchatkan, Shompen, Andamanese		Obituaries: Zvelebil, O'Grady Bio-genetics, Fallacy of time limit, Myth of rapid linguistic change, Linguistic chronology
XIV	**2009** Commemoration of Daniel F. McCall	Bengtson	Berber, Indo-European, Caucasian, Basque, El Molo, Mesmes, mystery languages of East Africa	Berber *H (Fournet, Blažek, Kossmann, Prasse)	Paleoanthropology, Myth of rapid linguistic change, Numerals (Hurrian, Nilotic), Profiles (Dolgopolsky, Mallory)

MOTHER TONGUE
Journal of the Association for the Study of Language in Prehistory • *Issue XV* • *2010*
Fifteenth Anniversary Issue • 1995-2010

From Africa and back: some areal patterns of mythological motifs[1]

Yuri E. Berezkin
European University at Saint Petersburg
and
Museum of Anthropology and Ethnography (Kunstkamera)
Russian Academy of Sciences
Saint Petersburg

In the early nineties I began to create an electronic catalogue of world mythology and folklore. It now contains more than 45,000 abstracts of texts arranged according to ethnic groups or areal clusters of groups and to **motifs** (more than 1600 at the moment). With new publications processed and the number of the selected clusters increasing (813 in January 2011), the system becomes ever more sensitive to tendencies in distribution of motifs.

The catalogue was created not with the purpose of simply registering narrative units, but in order to accumulate data relevant to research on early migrations and prehistoric cultural contacts. Initially the problem of the peopling of the New World was a focus of the studies. After about 2003, when the materials from Western Eurasia and Africa had been included, even earlier periods of human history could be addressed.

I define **motifs** as any episodes, chains of episodes, structures, images, etc. that are subject to replication and therefore found at least in two (practically, in many) texts. People themselves do not analyze their stories and do not select any motifs from them. Just because of this such units are copied unconsciously and can be transmitted between generations and populations with only minor and random modifications. We can hypothesize that the speed of change directly depends on the number of acts of transmission of stories from one person to another. Accordingly, this speed must have been very low, as long as human societies were small and population sparse, but increased in complex societies. The recent disintegration of "traditional folklore" along with emergence of the global information network is the last stage of this process.

At the turn of the nineteenth to twentieth centuries Franz Boas and his colleagues were engaged in comparative study of the American Indian mythological texts using units which they named "elements," "catch-words," etc. (e.g. [Boas 2002: 662-674; Kroeber 1908; Swanton 1929: 269-275]). Such units, for which Boas and others never coined a specific label, are very similar to my **motifs.** I am not sure that the term "motif" is the right decision because I mean something different from S. Thompson's definition [1951: 415] but no other suggestion was better. The key word in my definition of motif is "replication," *i.e.* the motif is something that is copied unconsciously. It is impossible to distinguish, with one hundred percent probability, copying from independent multiple invention. However, the uneven but not chaotic areal distribution of motifs is an argument against their permanent independent reinvention in different traditions. Besides trivial cases like lack of agricultural myths in the Arctic or kings not being mentioned in aboriginal Australian stories, the areal patterns of distribution of motifs rarely if ever correlate with natural, economic or social factors. The migrations in the epoch of the initial peopling of the earth by modern man seem to be the major factor responsible for such patterns, though later migrations and cultural contacts also played their role.

---

[1] In 2011 the financial support for my work was provided by program of the Presidium of Russian Academy of Sciences "Historical-cultural heritage and spiritual values of Russia."

Boreal and Austral sets of motifs

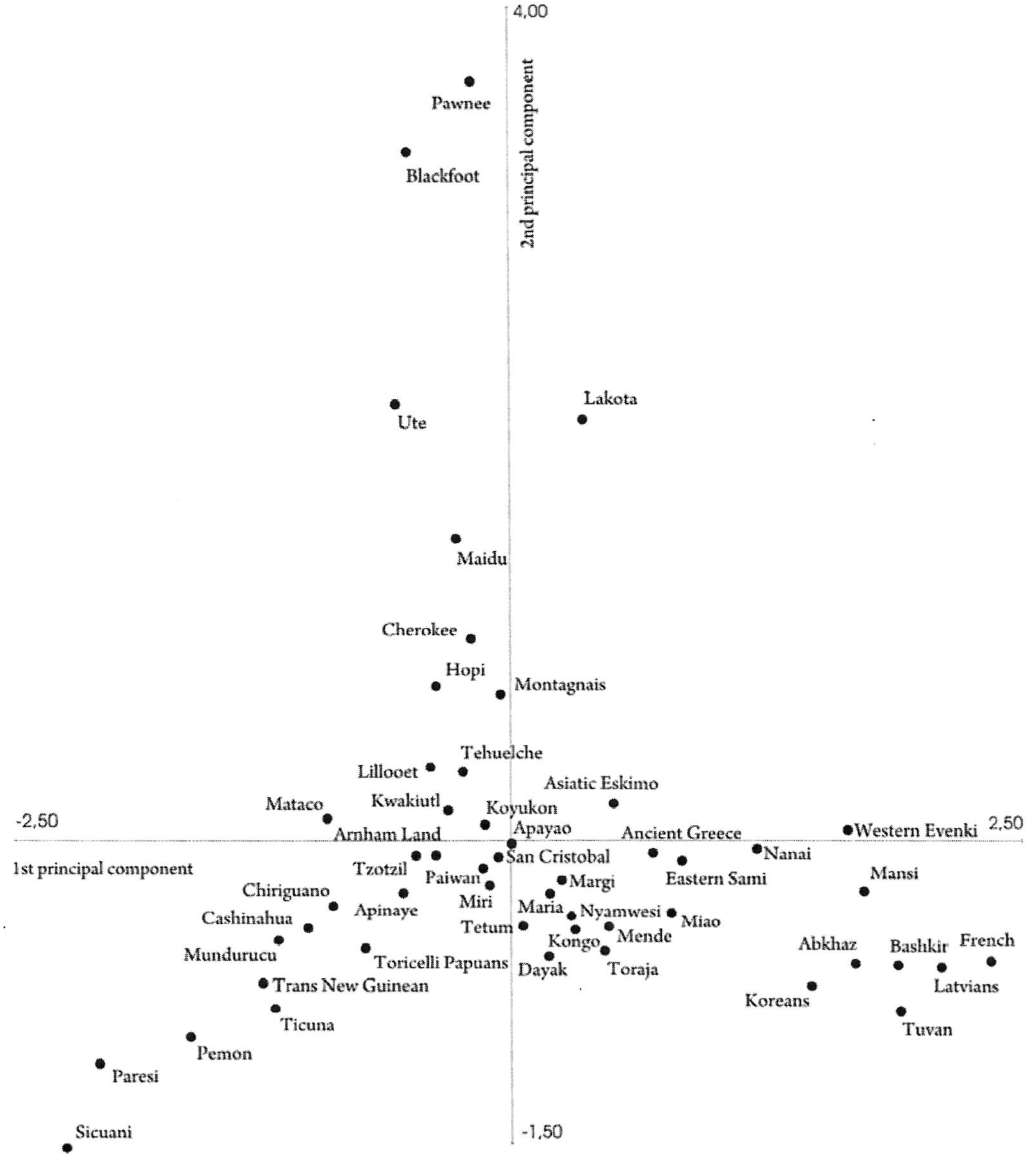
In the late nineties the computing of data on areal distribution of about 1000 mythological motifs checked for the American Indians and the Eskimo demonstrated the existence of two main sets of motifs [Berezkin 1998; 1999]. One of them was best represented in Amazonia and Guiana and another across the Plains and around the Great Lakes. The mythologies of these regions proved to be the most different from each other. As the database acquired world-wide dimensions, it became clear that these American mythological complexes corresponded to similar complexes in the Old World [Berezkin 2002; 2003; 2005a; 2005b; 2006a; 2007; 2009a; 2009b; 2010b].

Some tendencies are especially clear if we minimize the entropic effect of the western Eurasian fairy-tale and compute only cosmological and etiological motifs, which are relatively rarely adopted into the fairy-tale, to be introduced with it to new territories. Some other tendencies can be better understood when we address just the motifs of adventure and tricks. Though they are used in the fairy-tale and heroic epics, at least some of them were adopted from the more archaic forms of folklore and could be quite old.

Now to demonstrate in the simplest way major tendencies in the global distribution of motifs, 50 sample traditions were selected and all the motifs found in them computed (fig. 1). These traditions were chosen as representative of the corresponding areas, moderately well supplied with sources (number of registered motifs between 60 and 150), and containing motifs related to cosmology and etiology, and to adventure and tricks, in a more or less equal proportion (motifs of the first category make from 1/3 to 2/3 of the total). The 1st principal component (1st PC, axis x) of factor analysis reveals the most powerful tendency in the mutual correlation of motifs. It demonstrates that the folklore-mythological traditions which share the least number of motifs are located (1) in northern and central (continental) Eurasia and (2) in Melanesia and Latin America. The sets of motifs in Melanesia and Amazonia revealed by the 1st PC are statistically identical. The Ancient Greek set of motifs, though clearly European, stands nearer to the center of co-ordinates because it does not contain most of the motifs typical for the fairy-tales and best represented in our case among the French and Latvians.

Ancient Greek mythology also contains a few motifs typical for southern Eurasia and Africa.

Figure 1.



I name the two major sets of motifs of world mythology (1) the *Continental Eurasian,* or *Boreal*, and (2) the *Indo-Pacific,* or *Austral.*[2] Their areal distribution strongly suggests correlation with two sets of genetic haplotypes brought to northern and to southern Eurasia by the first African migrants [Kayser 2010; Majumder 2010; Mellars 2007; Rootsi 2004; Stoneking, Delfin 2010; Zilhão 2006]. Ca. 60,000 b.p. groups of *Homo sapiens*, the so called "beachcombers," entered Asia from northeast Africa and began to move along the coast of the Indian Ocean. In the Middle East this stream split. Some groups continued their movement to the east as far as Australia and East Asia, while others migrated in a northerly direction and eventually occupied about the same part of Eurasia where the Neanderthals had lived before. This northern migration probably took place 10-15,000 years after the time when the first modern people occupied South and Southeast Asia, though any dates are still very provisional.

---

[2] Note that the term "Indo-Pacific," as used by the author, is not equivalent to the "Indo-Pacific" linguistic family postulated by Joseph H. Greenberg. Berezkin's usage denotes the whole area south and east of northern Eurasia, *i.e.* South and Southeast Asia, Australia and the surrounding islands (Indonesia, Phillippines, Melanesia, Micronesia, Polynesia, etc.). Thus the term "Austral" (southern), opposed to "Boreal" (northern) is probably preferable on a global scale [Ed.].

Mythology of Southeast Asia and adjacent areas not only preserved its African roots but began to change and proliferate. In comparison with African mythologies, the mythologies of the Indo-Pacific borderlands of Asia are richer and this enrichment had to have taken place between the initial peopling of these territories by *Homo sapiens* and the beginning of the peopling of the New World. (The existence of similar stories in America and in Asia proves their existence in Asia before the peopling of the New World began.) At about 15/17,000-12,000 b.p. both Boreal and Austral sets of motifs were brought to the New World and mixed there. The Indo-Pacific complex spread everywhere and became predominant in South and Central America while the Continental Eurasian complex spread mainly in North America. Since the time of the peopling of the New World American traditions influenced each other, especially in North America. Such an interaction between two major sets of motifs could have begun already in Siberia if the East Asian groups took part in its repeopling after the Late Glacial Maximum (LGM).

The Near East was the first out-of-Africa region occupied by *Homo sapiens*. The data on the pre-Islamic folklore and mythology of this area are scarce and the data on southern Iran and southern Pakistan are completely absent. However, there are several typically Austral motifs in the ancient Sumerian and Semitic sources. Some parallels of this kind are also found in European folklore (*e.g.* see below about the *Rainbow serpent* motif) but they are absent in Central Asia and Siberia.

In fig. 1 traditions of the southeast borderlands of Asia such as northern Taiwan (Paiwan), northern Luzon, northeast India (Miri), Timor (Tetum), Middle India (Maria and other Central Dravidians), Borneo (Dayak), Sulavesi (Toraja) occupy an intermediate position between continental Eurasian and Melanesian/South American sets, being a mixture of both. Most North American traditions are slightly shifted towards the Austral pole, and African traditions (Margi, Nyamwesi, Mende, Kongo) are slightly shifted towards the Boreal pole. The latter tendency is conditioned by the predominance of motifs of adventure and tricks in African folklore that probably spread from Asia. As we shall see below, African cosmological motifs, few as they are, have Austral parallels.

The American mythologies are the richest. It is enough to say that for several tiny groups of the Coastal Salish of the Puget Sound area (the

Blank Page
Insert Goes Here

Blank Page
Insert Goes Here

Lushootseed) we have the world maximum number of registered motifs (273). Even such complex and well documented traditions as the Russian, Bulgarian or Georgian have lower numbers (264, 228 and 223 motifs correspondingly). This is probably explained not only by the fact that both Austral and Boreal groups took part in the peopling of North America, but also by the great natural, and by extension cultural, diversity of the continent. To take another example, for the 1st PC the Austral extreme is represented not by the Melanesian (Trans-New-Guinean and Toricelli Papuans and southern Solomon islanders of San Cristobal, Malaita and others) but by the South American traditions (Sicuani, Paresi, Pemon). This also may be not so much thanks to the greater admixture of Boreal motifs in New Guinea and Melanesia than in Amazonia and Guiana but to the greater further elaboration of corresponding sets of motifs in the New World.

The same tendency is demonstrated by the 2nd principal component (axis y) that on fig. 1 distinguishes the North American mythologies, plus traditions of the Southern Cone of South America (Tehuelche), from all the rest. The North American Plains traditions (Pawnee, Blackfoot, Lakota) and the eastern South American traditions (Sicuani, Paresi, Pemon) occupy here the two extreme positions. Again, two factors were probably responsible for this. Firstly, the rich North American set of motifs could have preserved elements introduced from Eurasia at different times and accumulated. Secondly, new ideas and stories emerged on American soil using old Asian background materials.

In Continental Eurasian (Boreal) mythologies African elements were mostly lost. Such a loss was probably a result of the penetration of people into the sub-glacial zone with its very different environment in comparison with their tropical homeland. It could have taken place from the very beginning (*i.e.* from 45/40,000 b.p.) or it took place mostly during the LGM when population density in Northern Eurasia decreased. Though during the LGM population survived in the periglacial steppes and forests of the southern half of Siberia including the Angara and Aldan basins, the more northern areas were depopulated [Kuzmin & Keates 2005]. Those groups that successfully adapted themselves to the changed climatic conditions certainly underwent deep cultural transformation and this probably contributed to the idiosyncratic deviations from former tradition. Since about 19/18,000 b.p. when the acme of the LGM was over, the Continental Eurasian (Boreal) set of motifs probably became disseminated thanks to progressive expansion of the surviving population.[3]

A more detailed picture of the distribution of motifs across the world is demonstrated in **fig. 2.** This time all of 813 traditions were computed and positions of 200 of them in relation to the 1st and the 2nd PC fixed on the scheme.[4]

---

[3] The 18-19,000 b.p. dating of the beginning of recovery from LGM populational minimum is based on the dating of the Dyuktai culture in Eastern and Northeastern Siberia [Yi & Clark 1985: 10] and for assessment of time for repeopling of Northeast Europe by human groups of probable Southern Siberian origin [Pavlov 2009].

[4] We should remember that there are many different tendencies in the distribution of motifs, so the first two principal components reflect but 7% of all information. However, just these seven percent demonstrate global tendencies while all the rest reflect situations on a smaller scale.

All the sub-Saharan traditions are concentrated at the bottom of the scheme. The area they occupy is compact because the traditions in question are uniform and relatively poor.[5] Traditions of South and Southeast Asia, Melanesia and Australia are the nearest to them. As mentioned above, just they, unlike the Boreal traditions, preserve old links with Africa. Among the Boreal traditions there is a dichotomy between those that were strongly influenced by the fairy-tale (or, looking from another side, the fairy-tale itself developed on their base) and those of traditions of Siberia and East Asia that were influenced by the fairy-tale to a lesser degree. For the Yakut, Altai, Buryats, and Tuvinians both rich traditional mythology and many fairy-tales are recorded. The Ainu, Paleoasiatic (Chukchi and Koryak) and Eskimo traditions occupy a position between the Siberian and the North American sets, being more similar to the latter. All North American traditions form one group as far as the 1st and the 2nd PC are concerned though the 4th PC (not on the scheme) radically differentiates the Northwestern traditions, on the one hand, from the traditions of the Plains and of the North American East, on the other. Latin American traditions are well differentiated from the North American ones and demonstrate links with Melanesia, South Asia and ultimately with Africa.

African motifs in the Indo-Pacific world: the origin of death

Though mythologies of South and Southeast Asia preserve African links, these links are not many and we can look at the most important of them one by one.

There are far fewer cosmological and etiological tales in Africa than in Eurasia, not to mention America. The ultimate reason could be the relative monotony of landscapes and climates in Tropical Africa. Cultural evolution accelerates in response to changes of natural and cultural conditions. Peopling of new territories certainly contributed to rapid cultural development of out-of-Africa migrants, while the Africans themselves continued to live in their homeland. Serious climatic changes that took place from the LGM till the end of the Climatic Optimum of the Holocene (25,000 - 5,000 b.p.) most of all influenced the environments of the temperate zone, while in Africa the borderlines between the rain forest, savannah and desert moved back and forth but the zones themselves preserved their basic features. Because of this, innovations in African mythology and folklore were most probably thanks to the spread of tales and ideas from Asia rather than because of inner development. Those motifs which lack clear cultural particularity and are not related to the sphere of the sacred have better chances of being borrowed and of crossing ethnic borders. Though African folklore was enriched, local cosmologies remained rather poor.[6]

---

[5] Rich traditions stand farther from the center of the co-ordinates than those which are not so well represented, even if they are basically similar (like Shuar and Aguaruna, Avar and Lezgin, eastern Trans-New-Guinean and Toricelli Papuans). So in fig. 2 the vector of the tradition in relation to the center of the co-ordinates is probably more important than the distance from the center.

African stories related to explanations of why people are mortal provide, however, an exception. The number of corresponding texts is small in comparison with, *e.g.*, the number of recorded animal tales, but the set of African motifs related to the etiology of death is relatively abundant. Almost all major variants of such explanations recorded on other continents are also known in Africa. Most of them, apart from Africa, have been recorded across the Indo-Pacific borderlands of Asia, Australia and Oceania and in the New World, mostly in South America.

The motifs in question are not found uniformly across the whole African continent but first of all among the Negroid populations of the Tropical zone. They are rarer among the Khoisan groups and almost absent in North Africa, whose folklore underwent deep transformations after Islamization and possibly earlier, after the spread of Afrasian languages. Typical African "death-myths" are not often found among the Atlantic- and Mande-speaking people. It appears that the far western Tropical African folklore was more strongly influenced by stories of Eurasian origin than the Gur, Kwa, Adamaua-Ubangian, Bantoid or Nilotic traditions.

The most important (but not the only) tale-producing motifs in question are *Shed skin, Immortal Moon, Stone sinks, stick floats, Call of God, Originator of death the first sufferer, the Muddled message.*

Shed skin (fig. 3). Those who can shed their skin become young again and people are mortal because they cannot do it. In most of the cases, people are contrasted to snakes and more rarely to invertebrates, or to some trees which shed their skin or bark and rejuvenate (motif H4 in my catalogue).[7]

Bantu Africa: Bena Marungu, Bende, Chagga, Fipa, Gogo, Issansu, Kongo, Kwaya, Luba, Luya, Nyamwesi, Ruanda, Tabwa, Wemba, Zulu [Abrahamsson 1951: 18, 37-38, 43-66; Baumann 1936: 289; Beier 1966: 64-65; Colle 1913: 507, 519-522; Huber 1967: 796-797; Janssens 1926: 551-556; Millroth 1965: 200-202; Parrinder 1967: 56; Wagner 1949: 169-170]. **West Africa**: Ewe, Kone, Kono [Abrahamsson 1951: 62; Baumann 1936: 213; Holas 1975: 127; Parrinder 1967: 54]. **Sudan and non-Bantu East Africa**: Lur, Galla, Konso, Malagasi [Abrahamsson 1951: 16, 58, 122; Baumann 1936: 276, Jensen 1936: 498]. **Australia**: Karadjari, Murinbata, unidentified group [Waterman 1987: 86; Poignant 1967: 136]. **Near East**: Gilgamesh epics. **New Guinea:** Arapesh, Dugum Dani, Kewa, Kiwai, Daribi, Kukukuku, Lakalai, Marind Anim, Torres Strait Islands [Blackwood 1939: 215; Deacon 1934: 265; Fischer 1968: 394; Heider 1970: 144;

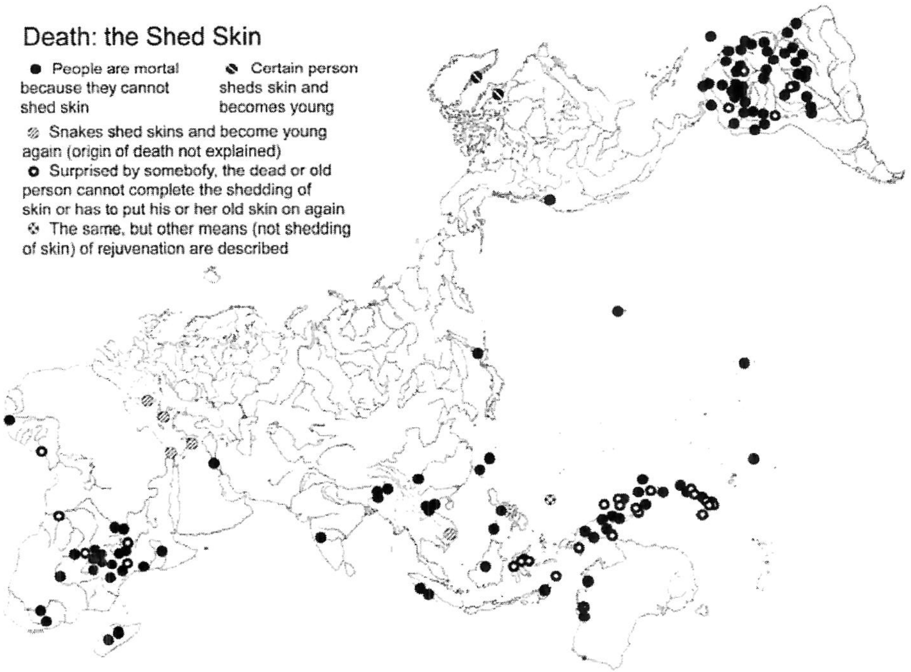
---

[6] It is significant that there are practically no stories that explain the origin of cultivated or of wild edible plants in Africa. Some stories describe the invention of agriculture but not the origin of species. Western Eurasian traditions of this sort are also poor while the Indo-Pacific agricultural myths both in Asia and Oceania and in Latin America are extraordinary rich and share a lot of motifs. All this argues, firstly, against the easy emergence of etiological stories everywhere where corresponding realities are presented and, secondly, in favor of possible Asian roots of American agricultural myths that could initially be related to wild edible species.

[7] Maps of areal distribution of motifs and a list of English wordings of motifs are available at http://starling.rinet.ru/kozmin/tales/index.php?index=berezkin.

Landtman 1927: 285-286; LeRoy 1985: 198-200; Mead 1940: 362, 371-373; Wirz, Neverman 1981: 43-48, 224-225]. **Melanesia**: Trobrian Islands, Dobu, Baining, Batom Islands, Admiralty Islands, Shortland Islands, San Cristobal, Guadalcanal, Florida, Malaita, Banks Islands, Tanna, Aneytium, Ambrim, Pentecost, Oba, Malekula, Eddystone Island, Kanaka of New Caledonia [Anell 1989: 6, 25; Bley 1914: 198; Codrington 1881: 274; 1891: 260, 265, 283-284, 287; Coombe 1911: 85; Deacon 1934: 286-287, 581; Dixon 1916: 118; Fortune 1932: 186; Fox, Drew 1915: 238; Frazer 1939: 220-221, 242; Ishida 1998: 30; Gunn 1914: 218; Hogbin 1937: 88; Humphrey 1926: 97; Leenhardt 1932: 447; Malinowski 1926: 81-83; 1948: 104; Meier 1908: 193; 1909: 37-39; Suas 1912: 44; Tattevin 1931: 875-876; Valentine 1965: 165; Wheeler 1926: 12; Williamson 1933(2): 147]. **Polynesia**: Ontong Java, Nukumanu, Samoa, Hawaii, Tuamotu [Anell 1989: 22, 29; Beckwith 1970: 234-236; Brown 1910: 365; Sarfert, Damm 1931: 458]. **Northeast India**: Moklum, Wancho, unidentified group (probably Naga) [Elwin 1958: 293, 296-297; Kudinova, Kudinov 1995: 89]. **South-East Asia**: Thai of Vietnam, Black Tai of Laos, Viets, Meo of Tailand [Bourlet 1907: 921-922; Dang Nghiem Van 1993: 324-326; Frazer 1913: 69-70; Landes 1886: 205-206; Symonds 2004: 17]. **South Asia**: Dhanwar [Elwin 1949: 417]. **Malaysia - Indonesia**: Nias, Mentawei, Dusun, Toraja, To Mori, Loinang, Bangai Islands, Balantac, Babar, Kai Islands, Tetum [Adriani, Kruyt 1951: 12; Anell 1964: 2; Anonimo 1955a: 38; Briffault 1927: 644; Dixon 1916: 182; Evans 1913: 426, 478; Fischer 1932: 213-215, 223, 225; Kruyt 1938: 434, 436-437; Schefold 1988: 73-75; Vroklage 1952: 129, 130; Williams 1961: 69]. **The Philippines**: Atayal, Mangian [Eugenio 1994: 73-74; Norbeck 1950: 31]. **Japan**: Miyako Islands, Ainu [Batchelor 1927: 30-31; Nevski 1978: 91]. **Coast - Plateau**: Klamath [Gatschet 1890: 103-104]. **Northern Andes**: Embera, Kogi, Yupa [Isacsson 1993: 71; Reichel-Dolmatoff 1985: 37-38; Villamañán 1982: 19; Wassen 1933: 107, 110]. **Llanos**:

Figure 3.


Death: the Shed Skin
● People are mortal because they cannot shed skin
Certain person sheds skin and becomes young
Snakes shed skins and become young again (origin of death not explained)
○ Surprised by somebofy, the dead or old person cannot complete the shedding of skin or has to put his or her old skin on again
The same, but other means (not shedding of skin) of rejuvenation are described

Sicuani [Wilbert, Simoneau 1992: 166-170, 172-173]. **Southern Venezuela**: Sanema, Yanomami, Yanomam [Wilbert, Simoneau 1990b: 88-89, 372-377]. **Guiana**: Warao, Dominica Caribs, Tamanak, Locono, Kariña, Kaliña, Aparai, Kaxuyana [Brett 1880: 107-108; Gillin 1936: 187; Goeje 1943: 26, 117; Kruse 1955: 409; Rauschert 1967: 180; Roth 1915: 150-151; Taylor 1951: 274; Wilbert 1970: 308-309]. **Western and NW Amazonia**: Secoya, Mai Huna, Shuar, Karijona, Ufaina, Letuama, Barasana, Tucano proper, Ticuna, Yagua [Århem et al. 2004: 449; Bellier 1991: 232-233; Brüzzi 1994: 71; Chaumeil 1983: 90; Cipolletti 1988: 73-75; Fulop 1954: 113-114, 125; Hildebrand 1975: 360-361; Hugh-Jones 1979: 185, 264, 265; Nimuendaju 1952: 135; Palma 1984: 167-168; Pelizzaro 1990: 53, 170-171; Powlison 1993: 47; Schindler 1979: 61]. **Central Amazonia**: Maue, unidentified group, Teffé Lake [Barbosa Rodrigues 1890: 234-235; Pereira 1954: 120-126; Tastevin 1925: 188-190]. **Eastern Amazonia**: Shipaya, Juruna, Tenetehara, Urubu [Huxley 1956: 92-93; Nimuendaju 1922: 385; Villas Boas, Villas Boas 1973: 249; Wagley, Galvão 1949: 149]. **Central Andes**: Wanka [Villanes Cairo 1978: 52-54]. **Montaña**: Ashaninca, Amahuaca, Cashinahua, Harakmbet [Baer 1984: 154, 228; Califano 1980: 126-127; Córdova-Ríos, Lamb 1971: 122-123; Koch-Grünberg 1921: 229-232; Pío Aza 1923: 396; Weiss 1975: 407-408]. **Southern and SE Amazonia**: Arua, Kayabi, Nambikwara, Iránxe, Trumai, Kamaiura, Bakairi [Blixen 1994: 20; Grünberg 1970: 163; Leonel Queiroz et al. 1988: 20; Monod Becquelin 1975: 65-66; Münzel 1973: 148-149; Pereira 1983: 41-42; 1985: 83-84; 1995: 116, 128]. **Eastern Brazil**: Caraja, Cayapo [Aytai 1979: 10-11; Wilbert, Simoneau 1984a: 514-515]. **Chaco**: Ayoreo, Mataco, Nivakle [Wilbert, Simoneau 1982a: 231; 1987b: 560; 1989b: 118-119, 121-122].

In **Africa** (Chagga, Dogon, Gogo, Kongo, Luba, Lur), **Indonesia** (Toraja, Mori, Loilang, Kai, Babar, Tetum), **Melanesia** (Lakalai, Dobu, Trobrian Islands, Admiralty Islands, Gazelle Peninsula, Malaita, Guadalcanal, Shortland Islands, Eddystone, Oba, Pentecost, Malekula, Tanna, Aneytium, Yande Island) and **South America** (Yanomami, Secoya, Harakmbet, Nambikwara) the *Shed skin* stories have an additional common element. The process of rejuvenation is ruined and people become mortal because a person's relatives did not recognize him/her in his/her new state, or disturbed the person when he/she was shedding his/her skin. In **Micronesia** on Palau Island this motif is also present, though the woman must rejuvenate not after shedding her skin but thanks to a branch of dracena put into water [Anell 1964: 6].

The motif of snakes that become young again every time they shed skin was known in antiquity to the Greeks and Phoenicians. However, in the corresponding sources this motif is not used for the explanation of the mortality of man. Only in Table 11 of the Akkadian Gilgamesh epics, the *Shed skin*, though rather vaguely mentioned, is linked to the motif of a failed attempt to make people revive after death (the snake steals from Gilgamesh the "flower of immortality" and crawling back to its hole, it sheds its skin).

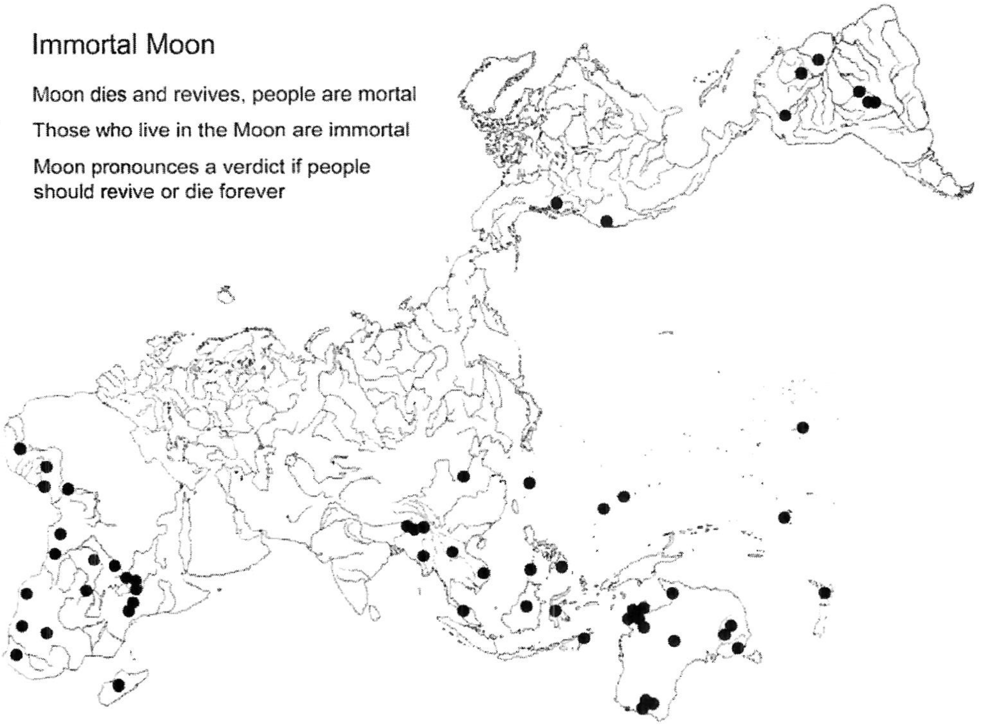
In North America, the *Shed skin* is recorded only once, among the Klamath. The Baffin Land and West Greenland (Sakkak) Inuit legends do not contain the etiology of death but speak about a particular woman who became young after shedding her skin [Boas 1901: 226; Millman 2004: 184].

Immortal Moon (fig. 4). Moon revives or rejuvenates every month but people do not; those who live on the Moon are immortal; Moon makes the decision if people should die forever or regularly revive (motif A36).

Khoisan and Bantu Africa: Acholi, Ambo, Bemba, Bushmen, Chagga, Chokwe, Khoikhoi, Kuta, Luba, Nyoro, Pare, Poto, Upoto, Vili, Yaka [Abrahamsson 1951: 8, 12, 20, 28-32, 39, 57; Andersson 1974: 61; Baumann 1936: 279, 296; Frazer 1926: 235-236;

Frobenius 1983: 115; Heinz 1975: 32; Maingard 1962: 47-48; Millroth 1965: 26-27; Tessmann 1937: 8; Zhukov, Kotlyar 1976: 60-61]. **West Africa**: Mandingo, Fon, Ewe, Hausa, Tangale, Builsa [Abrahamsson 1951: 7-8; Jungraithmayr 2002: 225-229; Müller 1908: 277; Olderogge 1959: 202-203; Schott 1989: 262; Spieth 1906: 557]. **Sudan and non-Bantu East Africa**: Bongo, Gbaya, Zande, Masai, Arusha, Nandi, Sanye, Malagasi [Abrahamsson 1951: 13-15, 57, 120-122; Barett 1911: 37; Hollis 1905: 271-272; 1909: 98; Tessmann 1937: 8-9]. **Australia**: Djinang, Millingimbi, Wotjobaluk, Wuradjeri, Kulin, Yarra, Noongahburrah, Tiwi, Bibbulmum, Arunta, Wilman, Murngin, Yirrkalla, Maung, Wonguri, Wulkara [Berndt, Berndt 1964: 336-338; Venbrux 2010: 30-33; Waterman 1987: 22, 84-85]. **Melanesia**: Fiji [Waterhouse 1866: 342]. **Micronesia**: Caroline Islands, including Ifaluk, Woleai, Lamutrek, Merir, Mortlock [Anell 1964: 20; Burrow, Spiro 1957: 212; Krämer 1937: 151, 279]. **Polynesia**: Maori, Niue, Society Islands [Beckwith 1970: 74; Dixon 1916: 54; Williamson 1933(2): 148-149, 152]. **Northeast India and South-East Asia**: Aka, Kachin, Burmese, Tjam, Khmu [Cabaton 1901: 19; Elwin 1958: 288-290, 294-295; Landes 1887: 105-107; Lindell et al. 1978: 112-117; Aung 1957: 96-98]. **Malaysia – Indonesia – the Philippines**: Mantra, Kenya, Toraja, Timor, Palawan, Tboli [Eugenio 1994: 307-308; Fischer 1932: 220-221, 226, 241; Hervey 1883: 190; Kruyt 1938: 434-436; MacDonald 1981: 102-110]. **China, Japan**: Ancient China, Miyako Islands [Nevski 1996: 269-270; Yuan Ke 1987: 154-159, 317]. **Western Subarctic**: Carrier [Jenness 1934: 113]. **California**: Nisenan [Boas 1917: 487-488; Voegelin 1942: 236]. **Venezuela, Guiana, Western Amazonia**: Yanomami, Hixkaryana, Secoya [Cipolletti 1988: 73-75; Derbyshire 1965: 26-27; Wilbert, Simoneau 1990b: 88-89]. **Southern Amazonia, Eastern Brazil, Chaco**: Iránxe, Ramkokamekra,

Figure 4.

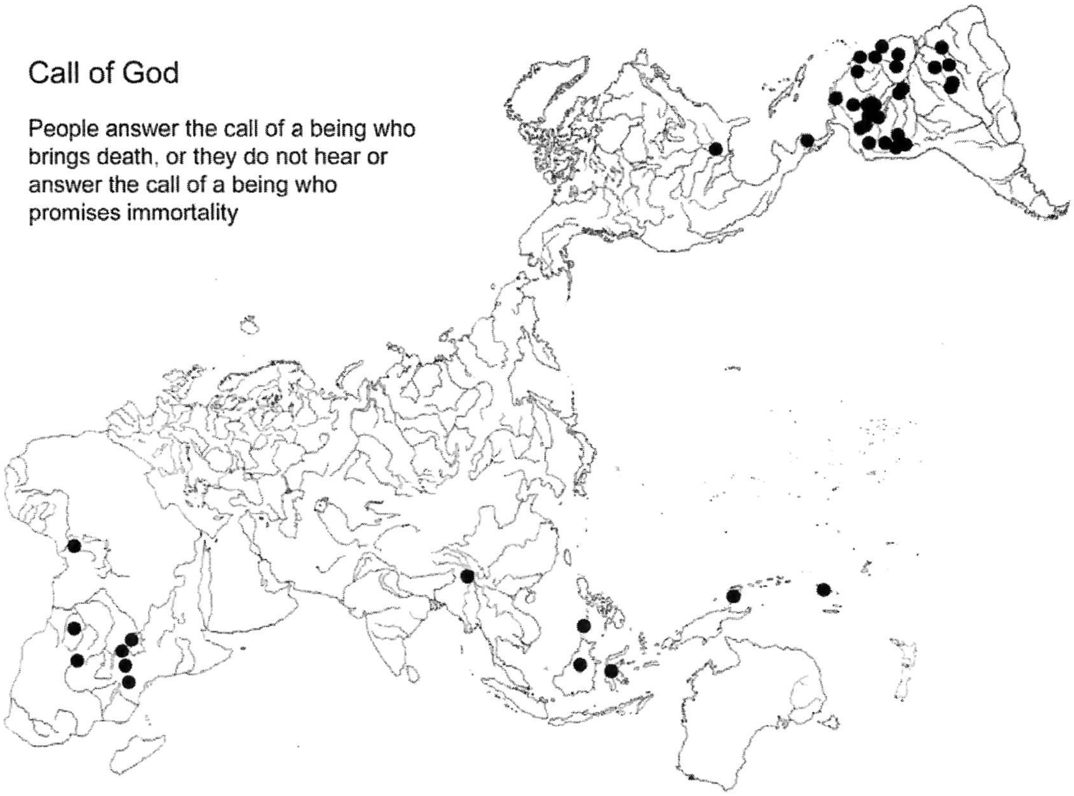

Immortal Moon
Moon dies and revives, people are mortal
Those who live in the Moon are immortal
Moon pronounces a verdict if people should revive or die forever

Ayoreo, Chamacoco [Escobar 2006: 223-225; Pereira 1985: 84; Wilbert, Simoneau 1984a: 17-30; 1989: 118-124].

This motif is less specific than *Shed skin* and its multiple independent emergence seems possible. However, its complete absence in continental Eurasia makes its initial appearance in Africa more probable, and consequently its further spread in the context of the Austral set of motifs. Its popularity mostly in Africa and Australia supports such a hypothesis.

Call of god (fig. 5). Humans are mortal because they did not hear or answer the call of a being who had promised them immortality (or did not pronounce his name) or answered the call (pronounced the name) of a being who had brought death (motif H11).

Figure 5.


Call of God
People answer the call of a being who brings death, or they do not hear or answer the call of a being who promises immortality

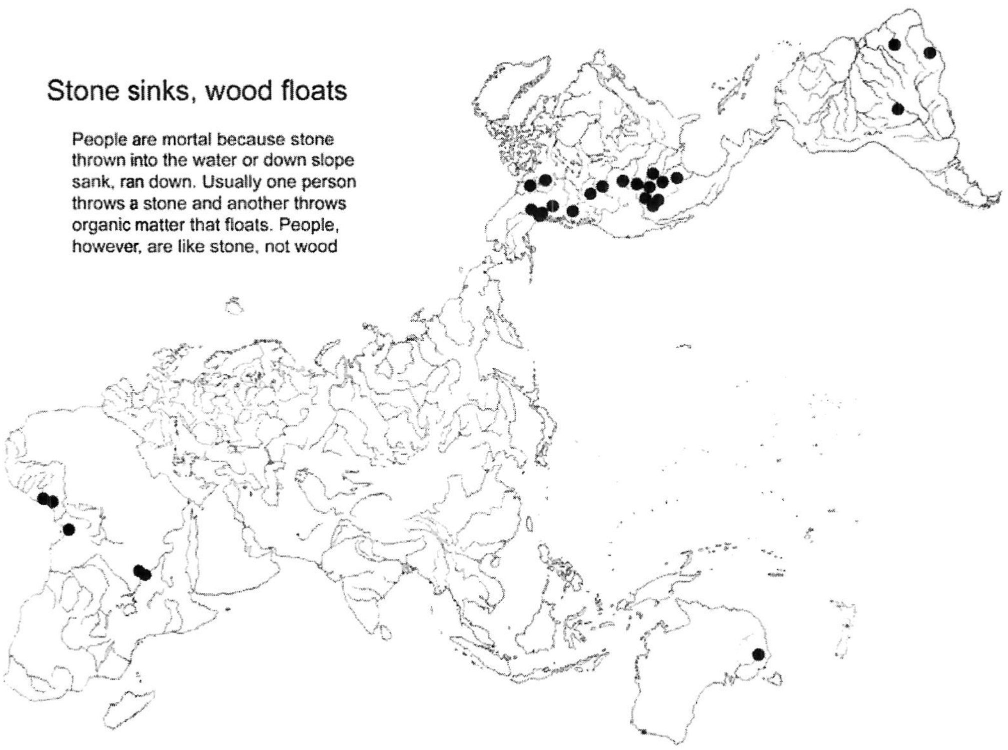
Bantu Africa: Bena Lulua, Bena Mbua, Bende, Chokwe, Fipa, Ganda, Kiwu Lake, Lunda, Pende, Ruanda [Abrahamsson 1951: 37-38, 66; Baumann 1936: 281; Frobenius 1983: 114-115; Janssens 1926: 551; Roscoe 1911: 461-464, 465-467]. **West Africa**: Tiw [Abrahamsson 1951: 41]. **Melanesia**: Baining, Malekula [Bley 1914: 198; Deacon 1934: 638-539, 734]. **Northeast India**: Aka [Elwin 1958: 288-290]. **Indonesia and the Philippines**: Dusun, Toraja, Palawan [Adriani, Kruyt 1951: 12; Evans 1913: 426; Fischer 1932: 214, 241; MacDonald 1981: 111; Williams 1961: 69]. **North American Southeast**: Choktaw [Swanton 1931: 201]. **Central America**: Sumu [Viner 1928: 167-169]. **Northern Andes**: Yupa [Villamañán 1982: 19]. **Llanos**: Sicuani [Wilbert, Simoneau 1992: 115-122, 138-141, 191-199]. **Guiana**: Warao, Tamanak, Hixkaryana, Kariña, Locono, Trio [Brett 1880: 108-109; Derbyshire 1965: 26-27; Goeje 1943: 116-117; Koelewijn, Riviere 1987: 45; Magaña 1987: 139; Roth 1915: 150-151; Wilbert 1970: 192, 192-193]. **Western and NW Amazonia**: Secoya, Mai Huna, Shuar, Karijona, Ufaina, Letuama, Ticuna, Tucano proper [Bellier 1991: 232-233; Brüzzi 1994: 71; Cipolletti 1988: 73-75; Fulop 1954: 113-114, 124-125; Hildebrand 1975: 360-361; Nimuendaju 1952: 135; Palma 1984: 167-168; Pelizzaro 1990: 170-171; Schindler 1979: 61]. **Central Amazonia**: Teffé Lake; unidentified group [Barbosa Rodrigues 1890: 234-235; Tastevin 1925: 188-190]. **Montaña**: Amuesha, Ashaninca, Cashinahua, Shipibo [Califano 1980: 127; Córdova-Ríos, Lamb 1971: 121; Gebhaert-Sayer 1987: 65-66; Koch-Grünberg 1921: 229-232; Santos-Granero 1991: 68; 1992: 116-117; Weiss 1975: 407-408]. **Eastern and Southern Amazonia**: Urubu, Shipaya, Kuikuru, Kamaiura [Huxley 1956: 92-93; Münzel 1973: 149; Nimuendaju 1922: 385-386; Villas Boas, Villas Boas 1973: 211]. **Eastern Brazil**: Caraja, Apinaye [Aytai 1979: 10-11; Krause 1911: 345-346; Wilbert 1978: 168-171, 175-176].

This motif, which is often combined with *Shed skin* and sometimes with *Immortal Moon*, is especially widespread in Bantu-speaking Africa and in South America.

Stone sinks, stick floats (fig. 6). Humans are mortal because a stone thrown into the water sank. They have missed the chance to be like wood or other organic matter that floats (motif H10).

Bantu Africa: Kwiri [Abrahamsson 1951: 10]. **West Africa**: Fon, Ewe [Baumann 1936: 274-275; Müller 1907: 277]. **Sudan**: Dinka, Nuer [Crazzolara 1953: 67; Katsnelson 1968: 139-140, 144-145]. **Australia**: Noongahburrah [Waterman 1987: 84].

Figure 6.

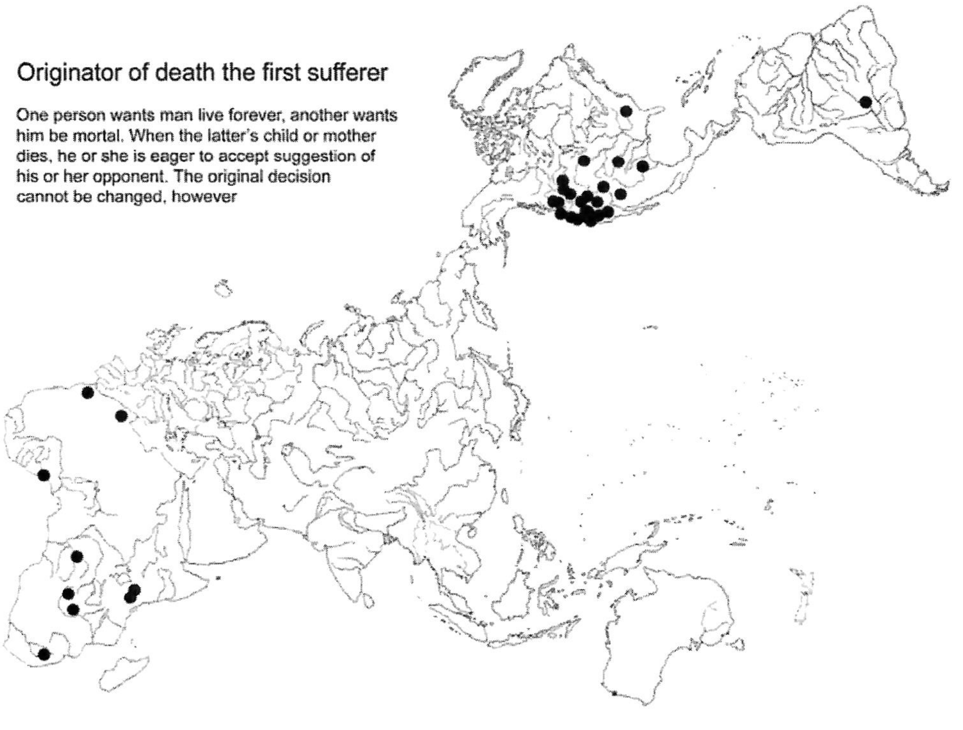

Stone sinks, wood floats
People are mortal because stone thrown into the water or down slope sank, ran down. Usually one person throws a stone and another throws organic matter that floats. People, however, are like stone, not wood

Western Subarctic: Tagish, Inner Tlingit, Tutchone, Kaska, Hare, Dogrib, Carrier [Boas 1917: 489; Cruickshank 1992: 74; Jenness 1934: 249; McClelland 1987: 275; 2007: 310-311; Petitot 1886: 15; Teit 1917a: 443-444; Workman 2000: 26-27]. **Plains**: Blackfoot, Gros Ventre, Arapaho, Cheyenne, Comanche, Kiowa-Apache [Josselin de Jong 1914: 29; Cooper 1975: 437; Clark 1966: 224-225; Dorsey 1903: 204-205; Kroeber 1900: 161; Saint Clair 1909: 280; McAllister 1949: 20-22; Wissler, Duvall 1908: 20-21; Dorsey, Kroeber 1903: 17, 81]. **Great Southwest**: Jicarilla, Western Apache, Chiricahua, Lipan [Beck et al. 2001: 15-16; Goddard 1911: 194; 1919: 138; 1933: 138; Goodwin 1994: 175-176; Matthews 1994: 77; O'Bryan 1956: 31-32; Opler 1938: 45-46, 268; 1940: 38-40; 1942: 28; Russel 1898: 258; Zolbrod 1995: 82]. **Eastern Brazil**: Ramkokamekra, Botocudo [Schaden 1947: 261; Wilbert, Simoneau 1984a: 17-30]. **Chaco**: Chamacoco [Escobar 2006: 223-225].

In North America the spread of the motif seems to be related to recent Athabascan migrations. In particular, the Plains Indians probably borrowed it from Athabascans when the latter moved from Canada to the Southwest. If so, the motif was initially as rare in North America as it was in South America, Australia and in Africa itself. However, its spread fits very well the usual pattern for Austral motifs.

Originator of death the first sufferer (fig. 7). Person insists that people should die forever. Somebody dear to him or her (usually his or her child) dies. Person consents that human beings might revive after death but the original decision cannot be changed (motif H1A).

Figure 7.


Originator of death the first sufferer
One person wants man live forever, another wants him be mortal. When the latter's child or mother dies, he or she is eager to accept suggestion of his or her opponent. The original decision cannot be changed, however

North Africa: Morocco Berber, Kabyl [Abrahamsson 1951: 54-55]. **Bantu Africa**: Ila, Lui, Subiya, Mbala, Soto [Abrahamsson 1951: 33-34, 65; Smith, Dale 1920: 102, 104-105; Werner 1933: 32-33, 288-289]. **West Africa**: Fon [Müller 1907: 277]. **Non-Bantu East Africa**: Masai, Arusha [Abrahamsson 1951: 57; Hollis 1905: 271-272]. **Coast – Plateau**: Thompson, Lillooet, Kutenai, Sanpoil, Quileute, Quinaulte, Alcea, Coos, Kalapuya, Takelma, Modoc, Upper Coquille [Adamson 1934: 305-306; Andrade 1931: 21-27, 99-101; Boas 1917: 486; 1918: 213; Farrand 1902: 111; Frachtenberg 1914: 41-43; 1920: 117; Gatschet et al. 1945: 226-227; Jacobs 1940: 135-136, 200; 1945: 137-138; 2007: 234-235; Marriott, Rachlin 1968: 190-193; McCormick Collins 1974: 212; Ray 1933: 132-135; Reagan, Walters 1933: 302-303; Sapir 1909: 99-101; Teit 1912: 356; 1917b: 1]. **Plains**: Blackfoot, Hidatsa, Kiowa [Josselin de Jong 1914: 29; Beckwith 1938: 13-15; Marriott, Rachlin 1968: 188-189; Wissler, Duvall 1908: 20-21; Parsons 1929: 42-43]. **North American Southeast**: Cherokee [Mooney 1900: 436]. **California**: Wiyot, Shasta, Wintu, Patwin, Pomo, Sinkyone, Coast Yuki, Yana, Achomawi, Sierra Miwok, Nisenan, Maidu, Tubatulabal [Angulo 1928: 585; Angulo, Freeland 1928: 241; Barrett 1933: 91-92, 249-250; Boas 1917: 487-488; Demetracopoulou, Dubois 1932: 415-416, 473-474, 482; Dixon 1902: 43-44, 47; 1910: 18-20; 1912: 51-55; DuBois, Demetracopoulou 1931: 299-300; Farrand 1915: 209; Gifford 1937: 119; Holsinger 1982: 15; Kroeber 1906: 96, 99; 1907: 203; 1919: 346; 1932: 308; Merriam 1993: 55-56; Reichard 1925: 183-185; Sapir 1910: 91-93; Voegelin 1935: 209; Voegelin 1942: 236; 1947: 55]. **Great Basin**: Northern Paiute, Paviotso, Western Shoshone, Gosiute, Ute [Curtis 1976: 148-149; Lowie 1924: 2-4; Powell 1881: 44; Smith 1992: 53; 1993: 3, 145; Steward 1936: 368-369; 1943: 290]. **Great Southwest**: Yavapai, Western Apache, Lipan [Gould 1921: 320; Gifford 1932: 246; 1933: 412; Opler 1940: 39-40]. **Mato Grosso**: Caduveo [Wilbert, Simoneau 1990a: 15-17, 36-37].

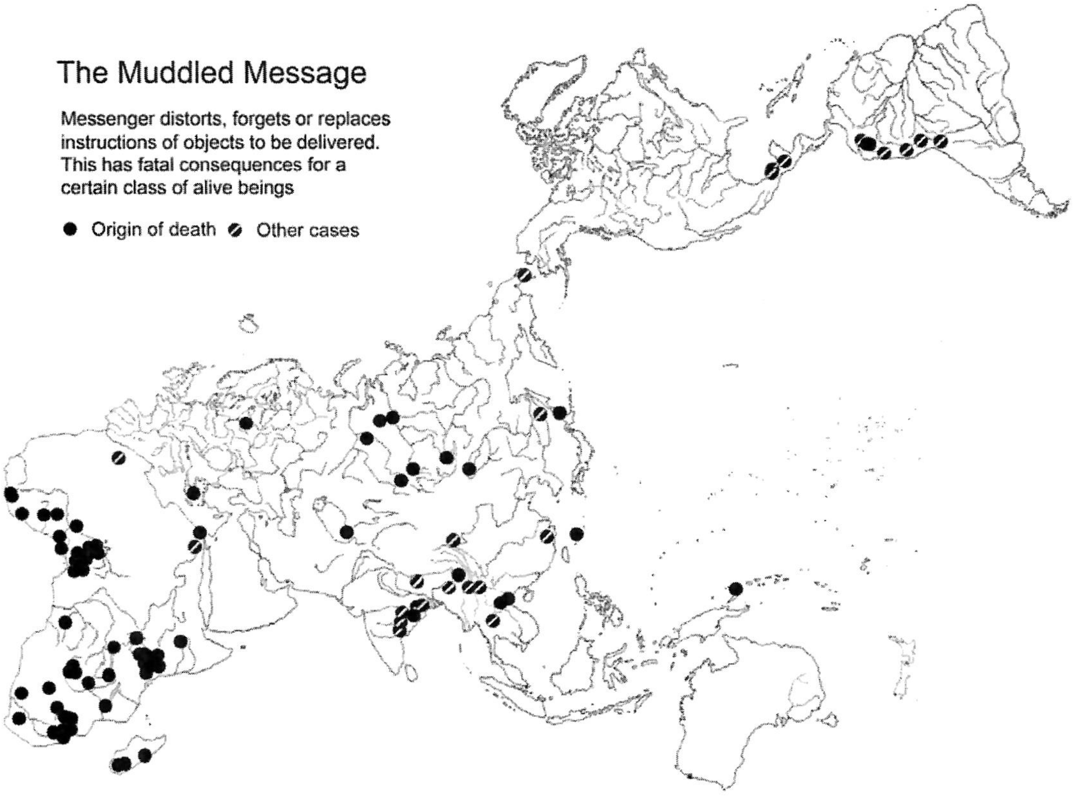
As in the case of *Stone sinks, stick floats*, a vast but well restricted area of this motif in North America was probably formed after the main stage of the peopling of America was over. The spread of *Originator of death the first sufferer* seems to be related to the spread of the Proto-western archaeological tradition in the very beginning of the Holocene [Geib, Jolie 2008] with which the areal correlation is perfect. Across the Plateau and the main part of California and Great Basin the motif is known practically everywhere. The Proto-western tradition probably emerged in the American Northwest, but some if its constituent elements must have been brought from Siberia. Though in Asia the mythological motif in question did not survive, its existence in South America argues against its independent invention in Africa and in North America.

The muddled message (fig. 8). Person is sent by god to bring instructions or certain objects but distorts, forgets or replaces them. This has fatal consequences for humanity or for a certain class of living beings (motifs H36 – H36g, H36hh, H36i, H41). In the list below traditions in which *Muddled message* is applied not to the etiology of death but to other themes are italicized.

Khoisan and Bantu Africa: Bushmen, Khoikhoi, Suto, Tswana, Zulu, Cosa, Swasi, Ronga, Yaka, Kuta, Nyangi, Duala, Bube, Yaunde, Koko, Bulu, Ganda, Chuka, Embu, Emberre, Mwimbe, Kikuiyu, Kamba, Pare, Ngoni, Yao, Nyanja, Tonga, Ila, Safwa, Subiya, Nyakusa, Konde, Mkulwe, Bemba, Lamba, Ndau, Wenda, Fang [Abrahamsson 1951: 8-34; Andersson 1974: 61-64; Arewa 1961: 13-14; Boas, Simango

1922: 183-184; Hamberger 1909: 300: Huber 1967: 796-797; Junod s.a.: 78; 1927: 351-352; Lindblom 1920: 253; Macdoland 1891; Parrinder 1967: 56; Smith, Dale 1920: 100-101; Tessmann 1937: 9; Werner 1933: 31-32; Wilson 1959: 15]. **West Africa**: Beng, Ibo, Ijo, Mende, Margi, Kilpa, Kone, Hausa, Mukulehe, Dagomba, Ditammari, Builsa, Mende, not specified group in Liberia, Margi, Kraci, Ekoi, Wute [Abrahamsson 1951: 6-10; Anpetkova-Sharova 2010: 219-220; Beier 1966: 56-57; Bundy 1919: 408; Gottlieb 1986: 479; Lembezat 1961: 59; Parrinder 1967: 54; Schott 1989: 262]. **Sudan and non-Bantu East Africa**: Bongo, Nyangi, Luo, Galla, Malagasi [Abrahamsson 1951: 9, 13-14, 16, 126-127; Belcher 2005: 153-154]. **North Africa**: *Berbers*, Arabs of Nile's Delta, *Arabs of South Egypt* [El-Shamy 1980: 145-146, 277]. **Melanesia**: Gazelle Peninsula [Ishida 1998: 30]. **Tibet – NE India**: "*Tangut*", *Lepcha*, Apa Tani, *Angami* [Elwin 1958: 282-283; Hutton 1914: 486; Potanin 1893: 315; Sieger 1967: 172-174; Stocks 1925: 345-354]. **South-East Asia**: *Tai*, Black Tai of Laos, Viets, *Wa, Palaung* [Aung 1957: 99-100; Bourlet 1907: 921-922; Frazer 1913: 69-70; Landes 1886: 205-206; Ling Ling, Ustin 1959: 175; Obayashi 1966: 51-55; Vathanaprida 1994: 105-108]. **South Asia**: *Bondo, Hill Sora,* Lanjhia Sora, *Parenga, Kond, Gondi* [Elwin 1948: 425; 1950: 143; 1954: 161, 339-340, 359-360, 363-364, 614]. **The Balkans**: Ancient Greece [Ail., IV, 51]. **Central Asia**: Tadjik [Rakhimov 2007: 79-80]. **Europe**: Lithuanians [Kerbelite 2001: 102].

Figure 8.


The Muddled Message
Messenger distorts, forgets or replaces instructions of objects to be delivered. This has fatal consequences for a certain class of alive beings
● Origin of death
⊘ Other cases

Southern Siberia: Khakas, Altai, Buryat, Mongol [Dyrenkova 1929: 123; Anokhin 1924: 18; Nikiforov 1915: 240-241; Potanin 1881: 166-167; 1883: 210-211]. **Western Siberia**: Hanty, Northern Selkup, Ket [Anuchin 1914: 11-12; Moshinskaia, Lukina 1982: 75; Pelikh 1998: 38-39; Porotova 1982: 59-60; Tuchkova 2004: 142-143]. **Lower Amur:** *Oroch* [Shan'shina 2000: 76]. **Japan**: Miyako Islands, Ainu [Batchelor 1927: 317-318; Brauns 1883: 250; Etter 1949: 22-23; Nevski 1996: 269-270]. **Arctic:** *Asiatic Eskimo* [Sergeeva 1968: 37-38]. **Mesoamerica**: *Veracruz Nahuatl, Sierra Popoluca, Chol, Pipil* [Elson 1947: 213-214; Gonzalez Cruz 1984: 225; Hartman 1907: 144-145; Whittaker, Warkentin 1965: 46-49].[8] **Western Amazonia**: Shuar, Aguaruna, *Napo* [Chumap Lucía, García-Rendueles 1979: 247-251; Mercier 1975: 64; Pelizzaro 1990: 169, 172-173; Rueda 1987: 60-61]. **Central Andes**: *most if not all Kechuan and Aimaran groups* [Morote Best 1988: 106-107; Ortiz Rescaniere 1980: 140; Paredes Candia 1953: 21-25; Sebastiani 1990: 152; Souffez 1988: 45-48, 53-54; Tomoeda 1982: 290-292].

The *Muddled message* is the most widespread "death-myth" in Africa. I could find it among 54 ethnic groups (or 55, considering also the Malagasy) while *Shed skin,* which occupies the second place, was found among 21 groups. Only four traditions (Zulu, Kwaya, Kono, and Galla) share both motifs. Among the Khoisans, *Muddled message* combined with *Immortal Moon* is the basic "death-myth" while *Shed skin* in South Africa is known only to the Bantu groups. Outside of Africa the *Muddled message* is relatively rarely used to explain the mortal nature of man, while *Shed skin* is popular in Indo-Pacific Asia, South America and especially in Melanesia, though not in Australia. It appears that the two motifs had different histories, at least after the beginning of the out-of-Africa migration, both in the Indo-Pacific world and in Africa itself.

Unlike other "death-myths" decribed above, the *Muddled message* is also recorded in continental Eurasia. However, it is mostly found there not in the form typical for Africa but as a special variant based on an episode of a raven or crow being sent to bring the water of immortality and spilling it on trees that became evergreen. Such stories are found among the Persians, Tadjik, Khakas, Altai, Buryat, and Mongol and with variations (no raven involved or no etiology of death) among the Talysh, Azerbaijan, Volga Tatars, Uzbek, and Kazakh (motif H6b). There is a text recorded in the early XX century in Iranian Khorasan that is similar to the Assyrian version of Gilgamesh, with the only essential difference being that the raven and not the snake steals the water (instead of the flower) of immortality from the hero [Donaldson 1938: 92]. This change is significant because the bird scavenger as the main creature related to death is typical for Boreal mythologies while the snake and other reptiles are typical for the Austral ones. The replacement of snake with raven can be an evidence in favor of a general trend of territorial spread of Boreal set of motifs at the expense of the Austral set.

In Africa itself there was a partial replacement of traditional native animals responsible for the introduction of death with the "death-animals" of Asiatic origin.

---

[8] There is no etiology of death in these Mesoamerican traditions. However, the stories in question either tell about the failed attempt to revive a particular person or (with the Pipil) there are possible fragments of such a story integrated into a different tale.

There are two traditional Muddled message stories in Africa. According to one, the Hare brings message that people must die (Hausa, Nuba, Ila, Lui, Bushmen, Khoikhoi; motif H36d). In the Hausa version as well as among the Khoisan (Bushmen and Khoikhoi) the Hare is opposed to the Moon who wanted the men to live forever, so the Moon cut the Hare's lip in two and the Hare scratched the Moon's face or otherwise made it covered with dark spots. Such transcontinental parallels reflect cultural links that definitely preceded (possibly by dozens of thousands of years) the spread of the Bantu languages. Outside of Africa the hare as a "death-animal" is unknown, though association between the hare and the Moon so typical for South and East Asia may have African roots. In another African version of the Muddled message, the Chameleon who is too slow is opposed to a quick Lizard who brings the "death-message" (motifs H36b, H36c). This story is widespread across all West (minus the Atlantic and Mande groups) and Bantu-speaking Africa. Among the non-Bantu groups of East Africa (Acoli and Luo) the plot is somewhat different, but the Chameleon is also responsible for the introduction of death. In former times the Chameleon could have played a certain role in the "death-myth" also in North Africa, thence its negative associations among the Arabs of Egypt where it was called *gemel-el-jahud*, "Jewish camel" [Struck 1909: 177]. Unlike the Hare, the Chameleon and Lizard as the participants of the "death-myth" are known also in the Indo-Pacific world (Kachin, Banar, Ngaju, southern Palawan, Ontong Java, Nagaland) and in Latin America (Diegueño, Mohave, Cora, Tepehua, Veracruz Nahuatl, Makiritare). There is also a Lithuanian variant, the only one across all Northern Eurasia, that precisely follows the predominant African pattern. God sent Snail (no chameleons near the Baltic) to tell people that they will live forever, and Lizard to tell people that they should die, and the Lizard came first. With only one case known in a short retelling, it would be unreasonable to suggest any historical explanation for it.

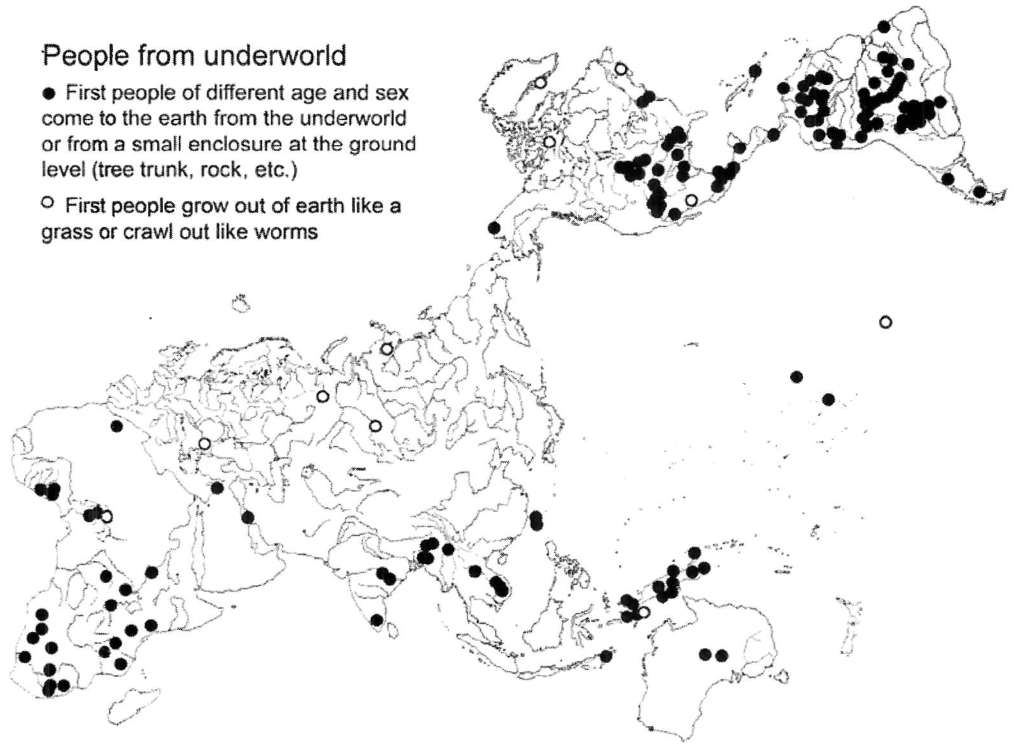
Across more or less the same area of Tropical Africa where classical Chameleon/Lizard versions of the Muddled message are recorded, similar versions with Sheep, Goat and/or Dog as protagonists are also found (Yaka, Kuta, Safwa, Konde, Nyakusa, Beng, Baule, Bemba, Mkulwe, Luba, Kraci, Dagomba, Akposo, Kono, Ditammari, Ibo, Idjo, Ibibio or Ekoi, Builsa, Nyangi, Bongo; motifs H36i, H41). These domestic animals certainly could not have been present in Africa before the Holocene, and they could hardly have reached Tropical Africa before the Iron Age. This is one of the most certain examples of the back migration of motifs from Eurasia to Africa. In West Africa among the Kraci of Ghana the motif of dog as a "death-animal" is combined with the motif of *Water of immortality spilled on plants,* while in a myth of an unspecified group of Liberia the same plot is related to cat [Abrahamsson 1951: 6; Bundy 1919: 408]. As was told above, the *Water of immortality spilled on plants* is mainly a Continental Eurasian story though two Pacific versions (Palau and Ngaju Dayak) are also known [Anell 1964: 21; Schärer 1966: 68-71]. Its combination with *Dog as death-messenger* confirms its late arrival in Africa.

I shall omit some other African - Asian links related to the death-theme for which material is less abundant and make a short overview of motifs related to cosmology and the origin of humans.

African motifs in the Indo-Pacific world: origin of people, heavenly bodies, atmospheric phenomena

First people from the underworld or the emergence myth (fig. 9). People of both sexes and all ages come out of the ground, rock, tree trunk, bamboo stem, etc. and spread across the earth (motif E5a). Stories about the emergence of a human couple which comes out of a primeval enclosure, together with different species of animals, are closely linked to this motif as well. Since the primeval dwellers are not clearly differentiated into real people and real animals, the important point is the multitude of the beings which ascend to the earth. The *Primeval couple* motif itself (motif E5b) is less specific though it is also predominantly characteristic of the Indo-Pacific world. Stories which describe how people descend from the sky (motif E5c) or how game animals (not in company with people) ascend from out of the earth should be treated separately, but some of them too share specific details with tales based on the *Emergence from the underworld* motif.

Figure 9.


People from underworld
● First people of different age and sex come to the earth from the underworld or from a small enclosure at the ground level (tree trunk, rock, etc.)
○ First people grow out of earth like a grass or crawl out like worms

The *Emergence myth* is found across all sub-Saharan Africa in particular among the Bushmen, Khoikhoi (including Damara), Herero, Owambo, Zulu, Kosa, Tsonga, Nyakusa, Nyandja, Kamba, Yao, Makua, Ashanti, Jukun, Ewe, Santrokofi, Gisiga, Akposo, Baakwa, Bowiri, Mbuti, Sandawe, and Nuer [Baumann 1936: 43, 192, 225-226; Belcher 2005: 244; Crazzolara 1953: 66; Dähnhardt 1910: 520; Debrunner 1969: 554-556; Dornan 1925: 288; Junod 1927: 348; Kimmendade 1936: 407; Kotlyar 1983: 24, 25, 237-238; Kuusi 1969: 67, 73; Lembezat 1961: 112; Maingard 1962: 68-69; Meek 1931: 199; Parrinder 1967: 39; Spieth 1906: 558-559; Tegnaeus 1950: 147; Ten Raa 1969: 25-29; Turnbull 1965: 261-262; Werner 1933: 22; Wilson 1959: 12; Zhukov, Kotlyar 1976: 33] with at least one case among the Berbers of North Africa [Frobenius, Fox 1937: 49-57]. This myth is found in mythologies of Sumerians and Phoenicians [Afanasieva 1982: 649; Zakharova, Torshilov 2003: 247] and is widespread across Indo-Pacific Asia and Oceania though rare in Australia (Aranda, Dieri, Mejprat, Arandani-Bintuni, Marind Anim, Dugum Dani, Keraki, Hambadi, Porapora, Kukukuku, Orokaiva, Baining, Trobrian Islands, Tuamotu, Marquesas, Easter Island, Lushei, Minyong, Ao and other Naga, Kuki, Wa, Khmu, Moi, Ma, Sre, Banar, Lao, Ahom, Bhuia, Kond, Toda, Watubela and Kai Islands, Tetum, Bunun, Paiwan) [Austen 1926: 143-144; Besnard 1907: 87; Correia 1972: 67; Dixon 1916: 169; Egli 1989: 30-31; Elmberg 1968: 256, 264, 274-275; Elwin 1939: 313; 1954: 432, 451-452; Fischer 1968: 370-371, 373-375; Fürer-Haimendorf 1954: 590; Heider 1970: 141; Henry 1928: 347; Hicks 1984: 1-2, 42-44; Ho 1967: 239; Hodson 1910: 301; Howitt 1904: 476; Laufer 1946-1949: 530; Malinowski 1926: 81-83; 1932: 155, 366; Miedema 1997: 45; Obayashi 1966: 46-48; Perry 1915: 146; Perry 1915: 147-149; Perry 1915: 151, 161; Rivers 1906: 184; Roux 1928: 177-179; Schwab 1970: 766; Shakespear 1909: 392-393; Strehlow 1947: 44-45; Walk 1949: 65-66; Williams 1930: 154; 1969: 299-301, 386; Williamson 1933(1): 25-26; Wirz, Nevermann 1981: 145-147, 195-196]. In the New World it is typical for North American Southwest, southern Plains and the East (Lenape, Seneca, Mandan, Hidatsa, Cheyenne, Teton, Omaha, Oto, Arikara, Kiowa, Tonkava, Caddo, Tunica, Avoel, Choktaw, Alabama, Koasati, Creek, Seminole, Havasupai, Yavapai, Jicarilla, Western Apache, Lipan, Hopi, Zuni, Acamo, Sia, Isleta, Hano, Jemez, Seri) [Archambault 2006: 6; Beckwith 1938: 10-11, 18-19; Bierhorst 1995: 32; Boas 1928: 221-223; Bowers 1950: 156, 194, 196; Bunzel 1932: 584-593; Cushing 1883: 13-14; 1923: 163-166; Dähnhardt 1909: 88; Dorsey 1884: 229, 233, 237; 1894: 512; 1904a: 12-44; 1905: 7-13; Fewkes 1923: 490; Gifford 1932: 243; 1933: 349-352, 402-403; Gilmore 1926: 188-193; Goddard 1911: 193; 1918: 28; 1933: 128, 130-131; Greenlee 1945: 141; Grinnell 1893: 124-125; 1907: 170; Haas 1950: 19-21; Johly, B'yash 1958: 5-6; Judson 1994: 19-23; Kroeber 1931: 12; Marriott, Rachlin 1968: 96-99; Martin 1977: 3; Matthews 1994: 63-76; Mooney 1896: 1093-1094; 1898a: 198-199; 1898b: 152-153; Mould 2004: 64-68; Newcomb, Campbell 2001: 961-962; O'Bryan 1956: 3-10; Olmos Aguilera 2005: 139-141; Opler 1938: 16-25; 1940: 13-15, 26-29; Parsons 1923: 136-137; 1926: 169-175; 1932: 362; Quam 1972: 129-130; Reagan 1927: 722-724; Russel 1898: 254-255; Smithson, Euler 1994: 36-39; Stephens 1929: 5, 10, 52; 1930: 100-102; Stevenson 1894: 36-37; 1904: 25-29; Stirling 1942: 1-2; Swanton 1928: 480; 1929: 118; 1931: 201; 1942: 26-27; Voth 1905: 10-11, 16-17, 26-27, 38-41; Walker 1917: 181-182; Wallis 1936: 2-5; White 1932: 142, 147; Whitman 1938: 177; Will, Spinden 1906: 140-141; Wood 1967: 10; Zolbrod 1995: 35-48, 73-83] and for all Central and South America (Huastec, Aztec, Mixtec, Zapotec, Lacandon, Guatuso, Sumu, Taino, Guajiro, Pijao, Yaruro, Sicuani, Cuiva, Yabarana, Sanema, Yanomami, Yanomam, Siona, Secoya, Mai Huna, Murato, Puinave, Baniwa, Cubeo, Tucano, Pira-Tapuya, Witoto, Surui, Gavião, Zoro, Parintintin, Mundurucu, Shipaya, Urubu, Huamachuco, Inca, Conibo, Setebo, Marubo, Tacana, Ese'ejja, Chacobo, Yuracare, Moseten, Aikana, Salamay, Yabuti, Ajuru, Macurap, Tupari, Nambikwara, Iránxe, Paresi, Waura, Yaulapiti, Mehinaku, Caraja, Cayapo, Shavante, Kaingang, Mbaya, Caduveo, Tereno, Chamacoco, Nivakle, Sanapana, Lengua, Mataco, Toba, Pilaga, Ache, Mapuche, Tehuelche) [Altenfelder Silva 1946: 216; Alvárez 1942: 155; Arguedas, Isquirdo Ríos 1947: 66; Ariel de Vidas 2002: 536-537; Baer 1984: 242-243; Baldus 1931: 87; 1950: 218; Barbosa Rodrigues 1890: 250-251; Barcelos Neto 2001: 148-154; Barroso 1930: 7-80; Becker-Donner 1955: 284-285, 296; 1963: 447-449; Bellier 1991: 171-173; Boremanse 1986: 271; Brüzzi 1994: 66-67, 250-251; Cadogán 1962: 46-48; Califano 1974: 47; Casanova Velasquez 1990: 93, 97; Caspar 1953: 170-171; 1975: 195; Cipolletti 1988: 60-62, 172; Clastres 1972: 163-167; Constela Umaña 1993: 150-151; Cordeu 1973: 226; Dowling Desmadryl 1971: 126; Ehrenreich 1891: 39; Farabee 1922: 145; Garibay 1965: 36-37; Girard 1958: 78; Goldman 1940: 242; Grubb 1911: 114-115; Hawtrey 1901: 288; Hill, Moran 1983: 121; Hissink, Hahn 1961: 39; Houwald, Rener 1984: 28-29; Huxley 1956: 214; Kästner 1992: 67; Kelm 1972: 216; Koch-Grünberg 1921: 209-212; Kracke 1992: 137; Kruse 1952: 929-930; Lipkind 1940: 248; Løvold 1987: 421-425; Maldi 1991: 255-259; Maybury-Lewis 1971: 165, 285, 288; Mindlin 1995: 62-65; Molina 1916: 3-8; Monaghan 1995: 202; Münzel 1973: 71-77; Murphy 1958: 77-79; Nimuendaju 1920: 1008; Oberg 1949: 42; 1953: 96; Orbigny 1844: 213; Pereira 1980: 480; 1983: 7-13; 1985: 15-24; 1986: 34-69; Preuss 1921a: 112; 1921b: 58, 64-65; Rodríguez Álvarez 2009: 13; Rojas 1986: 106-107; Saake 1968: 262-263; San Román 1986: 113-115; Stirling 1938: 123; Tello 1923: 142-144; Thiemer-Sachse 1988: 34; Vickers 1989: 160; Villamañán 1975: 4, 6; Waisbard 1959: 65; Wavrin 1932: 135; Wilbert 1963: 110-113, 153; 1978: 157, 249; Wilbert, Simoneau 1982a: 59-60; 1982b: 129-130; 1984b: 124-125; 1985: 39-49; 1986: 114-115; 1987a: 96-102, 105; 1989a: 83-94; 1990a: 3, 15-30; 1990b: 35-38, 44; 1990c: 20, 24; 1991: 75-80, 128-129, 137; 1992: 166-170; Yépez 1982: 55-56].

This impressive list of ethnic names contrasts with the complete absence of such a motif in continental Eurasia and only one case in northern North America, the North Alaskan Inupiat [Oswalt 1967: 212]. Here we can find a related but not identical motif of the first people growing out of the earth like grass or crawling out like worms (motif E5aa) which is rare and distributed chaotically across the Globe (Buduma of Lake Chad, Easter Island, Kai Islands, Bulgarians, Komi, Nganasan, Southern Sel'kup, Yukaghirs, Netsilik Eskimo, Western Greenland, Micmac, Tarahumara) [Birket-Smith 1924: 440; Iliev 2001: 17-19; Knappert 1977b: 128-129; Kurilov 2005: 309; Limerov 2005: 39-40; Lumholtz 1902: 297; Pelikh 1972: 342; Popov 1984: 41-42; Rasmussen 1931: 209; Simchenko 1976; Talbot 1911: 250; Wallis, Wallis 1955: 144; Williamson 1933(1): 73].

Person tricked to kill his kin (fig. 10). Two persons have children or other close kin (younger siblings or mothers). One of the persons suggests killing and eating them but hides his or her own kin from his companion. Another person really kills his or her kin (motif M104).

In texts recorded among the Dravidian, Munda, Austronesian and Mon-Khmer people of India, Malaysia, western Indonesia and the Philippines, including Sora, Birhor, Santal, Bondo, Bhuia, Baiga, Kond, Oraon, Muria, Binjwar, Bhattra, Jehai- and Kintak-Semang, Senoi (Sakai), Aboriginal Malays (Mantra), Batak, Mentawei, Toraja and Tagal, the victim of the trick is the Sun and the trickster is the Moon [Adriani, Kruyt 1950: 377; Bodding 1942: 132-133; Bompas 1909: 402-404; Elwin 1939: 332; 1949: 41, 53, 56-57, 64-65, 74; 1950: 138-139; 1954: 39-40, 47-48, 54-

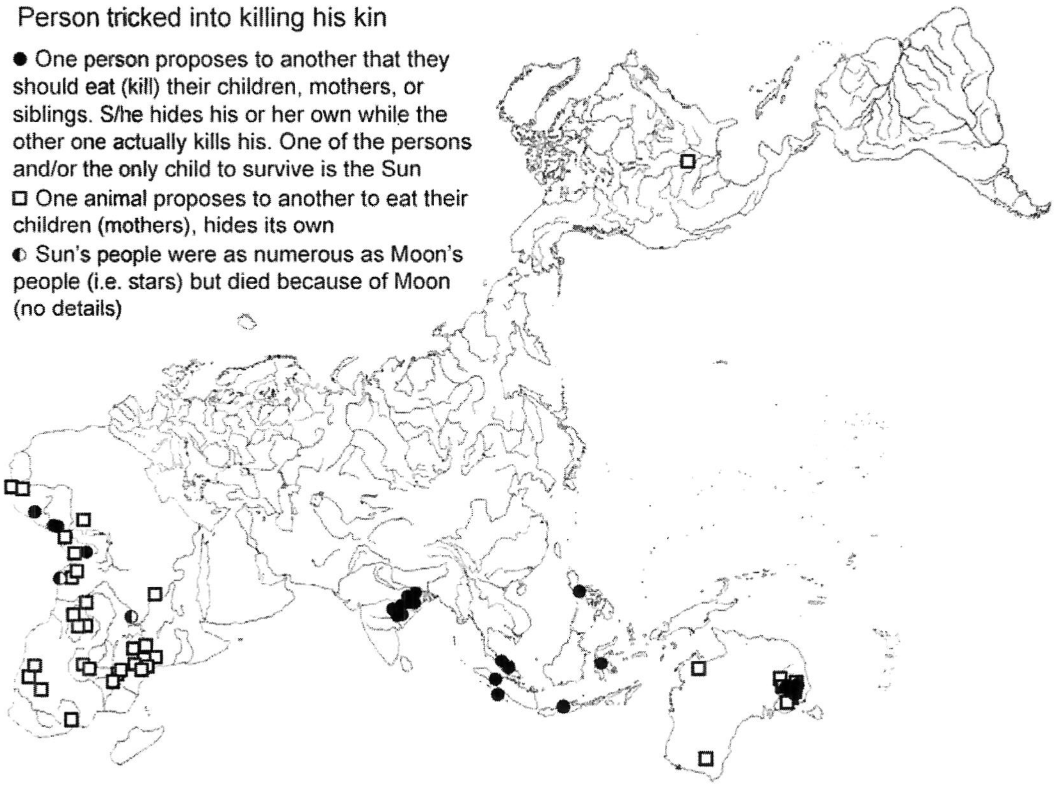
55, 57-58; Evans 1918: 191; 1937: 167; Hatt 1949: 75; Kruyt 1938: 370-371; Kühn 1936: 74; Rahmann 1955; Schebesta 1931: 107; Schefold 1988: 71-72; Skeat, Blagden 1906: 320, 338; Vitebsky 1980: 56; Warneck 1909: 43-44]. The sex of the luminaries is variable.

There are no *Moon tricks Sun* tales in Australia, but narratives from New South Wales (*i.e.* from the part of the continent which is the farthest from Southeast Asia) contain motifs that make us consider the Asian and the Australian cases as distantly related. According to the Wonghibon, emu was tricked by another bird into cutting her own wings and eating all but one of her chicks. During the ensuing fight, emu flung her remaining egg at her companion, it stuck in the sky and became the sun [Waterman 1987: 56]. There are other stories from South-Eastern Australia that are more or less similar to the Wonghibon tale.

The *Moon tricks the Sun* stories are found in Western Africa (Motif A41) [Himmelheber 1951: 18-18; Lembezat 1961: 236; Olderogge 1959: 150-161; Spieth 1906: 557]. Among the Baule of Côte d'Ivoire the Sun suggests that he and the Moon kill and eat their mothers. The Moon has not done it and now visits his helpful mother from time to time while the Sun has to do all the housework himself every day. Among the Fon of Benin, the Moon suggests that he and the Sun kill their children but only the Sun drowns his own children who turn into fish. The Moon explains that otherwise the Sun's power would be excessive. Among the Ewe (linguistically related to the Fon) the Moon suggests that s/he and the Sun eat up their children but hides his/her own children in a vessel whence they emerge as stars. This Ewe tale is practically identical with the South and Southeast Asian variants. This myth was also recorded among the Wute of northern Cameroon though only a short abstract was published. Similar versions possibly existed among the Nkomi of Gabon and Pigmies of northern Congo. Arguing about which of them is older, the Moon says that she has many children, the stars. The Sun answers that she would also have had many children if the Moon had not killed them [Raponda-Walker 1967: 431-432; Trilles 1932: 290].

Stories about two birds, one of which tricks another to kill its children, are known all across Australia [Dixon 1916: 274-275; Waterman 1987: 55-56] though only the variants from the Southeast part of the continent are related to the etiology of the Sun. Tales about two birds or animals, one of whom tricks another to kill his kin, are also widely known in sub-Saharan Africa. Those which are recorded among different groups of the Bushmen (the adversaries are two birds, one of them kills its children) are identical with the Australian variants [Kotlyar 1983: 42, 53, 232-233, 254-255]. Among the Sakata, Kwiri, Issansu, Kono, and Hausa the adversaries are two animals [Abrahamsson 1951: 10; Colldén 1979: 310-312; Holas 1975: 208-209, 212-218; Kohl-Larsen, Allensbach 1937: 18-19; Tremearne 1910: 492-493]. Among the Shilluk raven and crow agree to kill their mothers [Hofmayr 1925: 372]. In all other cases (Herero, Kamba, Safwa, Kongo, Bemba, Duala, Yaka, Bulu, Siba, Subiya, Songye, Luba, Lui, Bena Lulua, Tswana, Tsonga, Yoruba, Igbo, Chagga, Bondei, Kaguru, Kinga, Nyanja, Maba, Lango, Swahili- speaking groups)

Figure 10.


Person tricked into killing his kin
● One person proposes to another that they should eat (kill) their children, mothers, or siblings. S/he hides his or her own while the other one actually kills his. One of the persons and/or the only child to survive is the Sun
□ One animal proposes to another to eat their children (mothers), hides its own
◐ Sun's people were as numerous as Moon's people (i.e. stars) but died because of Moon (no details)

the adversaries are animals who agree to kill their mothers, not children [Anpetkova-Sharova 2010: 65-66, 201-203, 411-412; Arewa 1961: 59; Beidelman 1967: 287-289; Dennett 1898: 85; Driberg 1923: 447-448; Frobenius 1983: 264, 270-271, 283; Hofmayr 1925: 372; Holland 1916: 139-140; Junod 1927: 236-237; Lebzelter 1933: 73-74; Mudge-Paris 1930: 319; Okhotina 1962: 221-225; Plancqueaert 1982: 137-139; Radin 1952: 100-103; Retel-Laurentin 1986: 252; Schwab 1914: 267-268; Struyf 1936: 39-43; Walker, Walker 1980: 27-29; Werner 1915: 61; Woodward 1925: 266-270]. This latter version probably developed later because it is known only in Africa.

Neither for African – Asian (the Sun and the Moon agree to kill their children) nor for Khoisan – Australian (two birds agree to kill their children) are there any parallels in other parts of the world. For a version according to which two animals agree to kill their children, there is a single parallel among the Osage of the North American Plains (skunk and opossum involved) [Dorsey 1904b: 11].

Milky Way as border between the seasons. Milky Way is considered to be the dividing line between seasons of the year (motif I116).

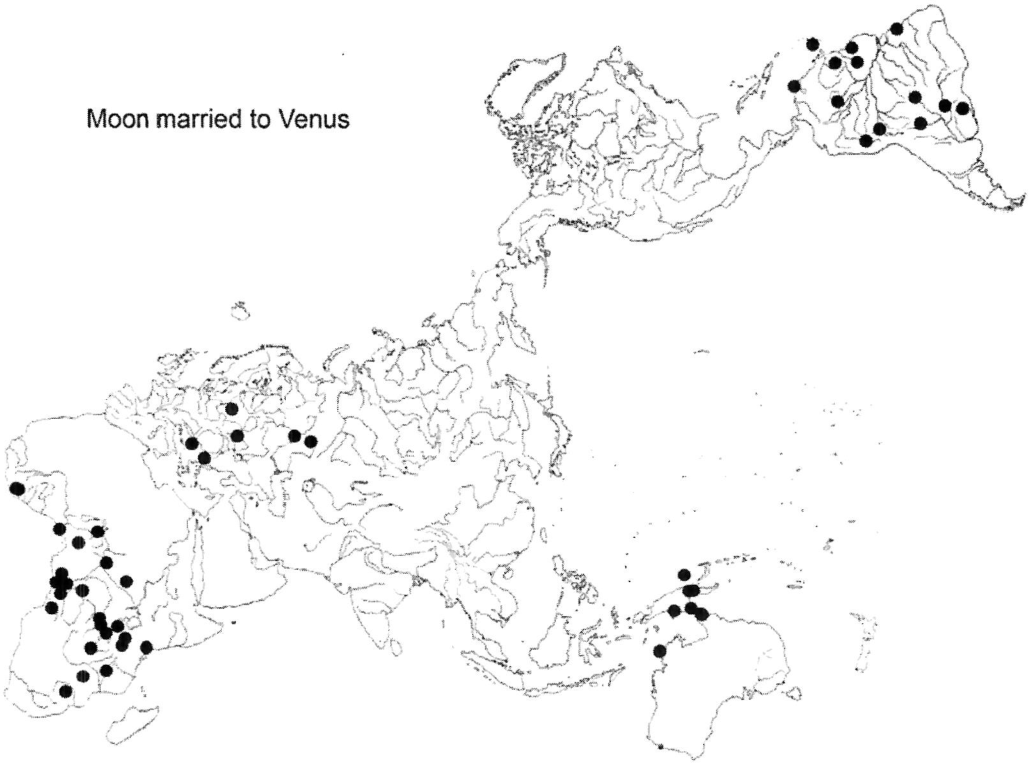
Such a conception is widespread among the Bantu of the Congo basin (Luba-Shaba, Luba-Kasai, Mpongwe, Vili, Shogo, Duma, Ndumu, Ngala, Bangi) and is also known to the Mande groups of Liberia and to Kukuruku of Nigeria [Colle 1913: 716; Lagercrantz 1952: 66-67; Schwab 1947: 413; Studstill 1984: 129; Thomas 1919: 180]. Among the Papuans of the North Coast of Huon Gulf it is exactly the same (Milky Way divides the rainy and the dry seasons) [Lehner 1931: 116] and among the Tibeto-Burman groups of the Northeast frontier of India (Miri, Abor, Lushei, Ao and Shan Naga) Milky Way is the divider between the cold and the warm (that is, also rainy) periods [Smith 1925: 115]. The understanding of Milky Way as a cosmic dividing line (between winds, quarters of the terrestrial circle, etc.) is found here and there among the Eskimo and Amerindian peoples [Hodge 1993: 29-32; MacDonald 1998: 91-2; Urton 1981: 201] though these New World ideas are somewhat vague and parallels with African, Asian and New Guinea cases are not precise.

Interpretations of the Milky Way across the globe are variable but *River* and *Snake* (or fish, chain of fish) are the most widespread in the Indo-Pacific world. *River* is especially typical for Australia but only rarely found in sub-Saharan Africa, all Tropical African cases being in Kenya and Tanzania (Nandi, Iraqw, Niamwesi, Gogo) [Hollis 1909: 100; Lagercrantz 1952: 68]. *Snake* in Africa is recorded only once among the Malawi [Baumann 1936: 300; Sicard 1966: 81-82]. The scarcity of specified interpretations for Milky Way finds parallels in African interpretations of the Pleiades. The latter are usually selected as a particular object whose heliacal rise and fall signals the end and beginning of a year [Hirschberg 1929] but stories related to the Pleiades or interpretation of the Pleiades as particular animals, persons or objects are rare. The only exception is *Hen and chicks* of Western Africa and Sudan (Mandjak, Temne, Malinke, Bamana, Dogon, Gbunde, Loma, Bassari, Mano, Gio, Ashanti, Yoruba, Igbo, Ewe, Jukun, Baule, Hausa, Ibibio, Shilluk, Tuareg) but it is certainly late like the domestic chicken itself and has parallels in Europe (with no reports in ancient sources) and in Southeast Asia [Berezkin 2010a: 8-9]. It seems that advanced star lore is a post-LGM phenomenon developed mostly in Northern Eurasia (from which it was brought to America) and in Australia. The Melanesian star lore is almost as poor as the African, and even the Polynesians and Micronesians, who possessed an exquisite practical knowledge of stars, had only minimal star mythology.

Moon married to Venus (fig. 11). Moon is male, the Morning Star, the Evening Star or both are his wives (motif I82c).

Venus is one of the few sky objects widely known in sub-Saharan Africa. The gender characteristics of luminaries, especially of the Moon, are variable but in cases when the Moon is male, the Morning or Evening Stars are often considered to be his wives (Fioti, Luba, Tabwa, Sukuma, Rundi, Nyamwesi, Kongo, Songye, Sakata, Kuta, Karanga, Komo, Ila, Ndebele, Mambunda, Bafia, Giriama, Idjo, Western Dan, Mukulehe, Manja, Nzakara) [Andersson 1974: 35; Beier 1966: 15-17; Colle 1913: 715-716; Collén 1971: 162; Fischer 1967: 709; Frobenius 1931: 232, 237-240; Laman 1962: 64-65; Lembezat 1950: 57; Mahieu 1975: 237-238; Millroth 1965: 35; Pechuël-Loesche 1907: 136; Roberts 1991: 260; Schwab 1947: 413; Sicard 1966: 45-46, 57; Smith, Dale 1920: 219; Studstill 1984: 71-73, 130-131; Talbot 1932: 344; Tessmann 1934: 218; Weeks 1909a: 477; Werner 1912: 194]. Outside of Africa such an interpre-

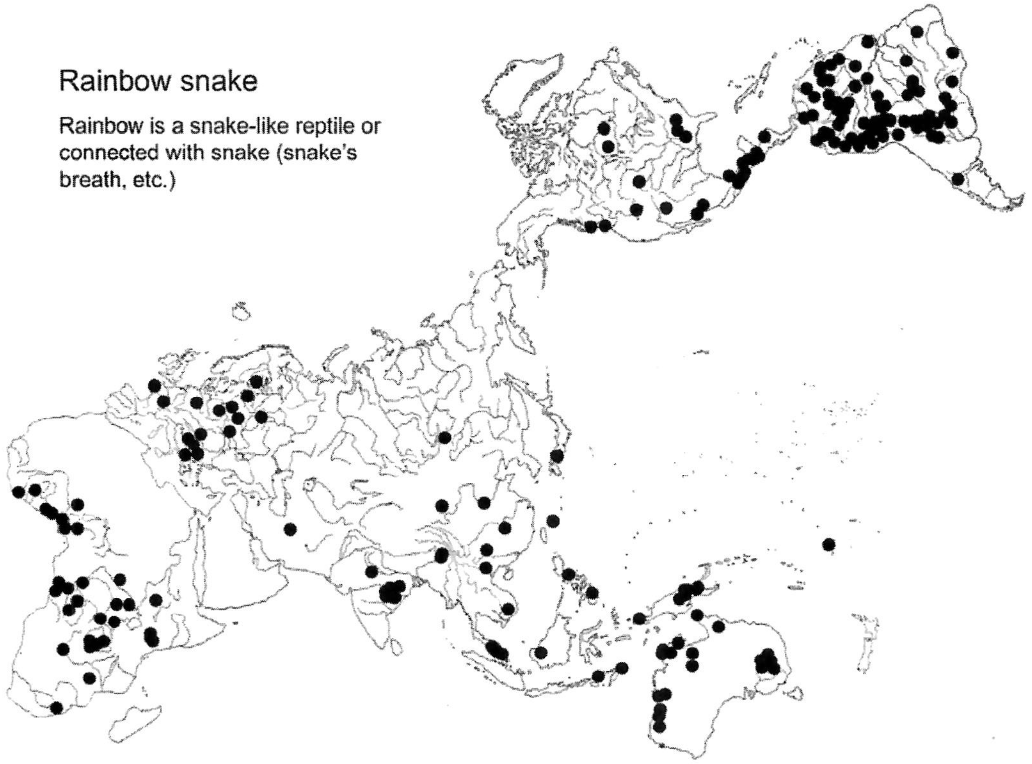
Figure 11.



tation has a restricted areal spread. Besides European cases (Bulgarian, Serbs, Ukrainians, Lithuanians, Bashkir or/and Volga Tatars) [Barag 1987: 34-36; Fedorovich 2009: 134; Jankovič 1951: 99-100, 122; Maksiutova 1991: 186; Nadrshina 1985: 13; Stoinev 2006: 303; Tsivian 1988: 230; Vorobiev, Hisamutdinov 1967: 315], all the others are concentrated either in Australia, New Guinea and nearby islands (Tiwi, Mungkan, Wik-Natara, Marind Anim, Kamano, Usurufa, Torres Strait Islands, Admiralty Islands, probably Ye-Nan) [Berndt 1965: 80-81; Frazer 1939: 217; Haddon 1908: 4; Mountford 1958: 173-175; Nevermann 1934: 371; 1942: 192; Thurnwald 1912: 341; Waterman 1987: 42; Wirz, Nevermann 1981: 207-208] or across South America to the east of the Andes where the "death-motifs" of possible African origin are also numerous (Guajiro, Taulipang, Caribs of Lesser Antilles and/or Guiana, Urubu, Tenetehara, Ashaninka, Takana, Umotina, Kaingang, Chorote, Guarani) [Anderson 1985: 81-83; Gonzalez 1967: 377; Henry 1941: 73; Huxley 1956: 165-167; Jackson 1983: 204; Koch-Grünberg 1924: 55; Magaña, Jara 1982: 112; Nordenskiöld 1924: 297; Roth 1915: 260; Schultz 1962: 244-246; Wagley, Galvão 1949: 135; Wilbert, Simoneau 1985: 18-19; 1986: 27]. Among the Papuans and Melanesians whose star mythology, as mentioned above, is weakly developed, the *Venus married to Moon* is one of the few motifs related to the interpretation of the night sky that have been recorded.

Rainbow serpent (fig. 12). Rainbow is a reptile (usually a snake) or related to reptiles, fish or invertebrates (motif I41).

Figure 12.


Rainbow snake
Rainbow is a snake-like reptile or connected with snake (snake's breath, etc.)

This motif is found everywhere across Tropical Africa (Bamana, Baule, Bemba, Bisa, Boa, Dan, Didinga, Embu, Ewe, Fioti, Fon, Hausa, Holoholo, Igbo, Ijo, Jukun, Kaonde, Karanga, Kikuyu, Komo, Kongo, Loma, Luba, Lunda, Mbala, Mbuti Pigmies, Mukunyi, Murle, Nyakusa, Songye, Tabwa, Taraka, Vili, Wanika, Yombe, Yoruba, Zande, Zela, Zulu) [Abrahamsson 1951: 116, 196-197, 212; Bernardi 1978: 184; Bittremieux 1935: 241-246; Chaplin 1959: 153-162; Cole 1982: 159; Colle 1913: 462-463, 475, 718-719; Dennett 1898: 6; Dupré 1963: 84-85; Frobenius 1983: 322; Greenberg 1946: 40-41, 56; Halkin 1911: 353; Herskovits 1938: 247-250; Himmelheber 1951: 19-20; Himmelheber, Himmelheber 1958: 202; Jacobson-Widding 1991: 184; Kronenberg 1972: 140; Lewis 1972: 128; Lindblom 1920: 274; Loewenstein 1961: 34-35, 45; Mahieu 1975: 238; Meek 1931: 200; Pechuël-Loesche 1907: 134; Radin 1952: 296-297; Schmitz 1912: 435; Roberts 1991: 251; Schwab 1947: 411; Spieth 1906: 552-553; Studstill 1984: 80, 92, 100-101, 104, 130-131; Talbot 1932: 19; Tegnaeus 1950: 135; Thomas 1919: 182; Turnbull 1959: 56; Vydrin 1999: 40; Werner 1933: 232; Wilson 1959: 60], and is widespread in Indo-Pacific Asia (Muria, Maria, Baiga, Gondi, Pardhan, Birhor, Kol, Oraon, Bugun, Mishmi, Uttar Pradesh, Semang, Senoi, Malay, Dayak, Yava, Bali, Flores, Fataluku, Kedang, Manobo, Mangian, Negrito of Luzon, Sre, Miao of Vietnam, Ancient China, southern China, Gansu, Miyako Islands, Ancient Japan) [Azevedo Gomes 1972: 65; Bader 1971: 950-951; Barnes 1973: 611-612; Blust 2000: 525; Crooke 1894: 276; Dournes 1977: 128; Eberhard 1968: 385; Elwin 1939: 336; 1949: 102-103; 1958: 10-13, 82; Endicott 1979: 175, 186-187; Eugenio 1994: 263; Evans 1937: 167; Garvan 1963: 208; Geddes 1976: 22-23; Loewenstein 1961: 31-32; Nevski 1934: 370-373; Nikulin

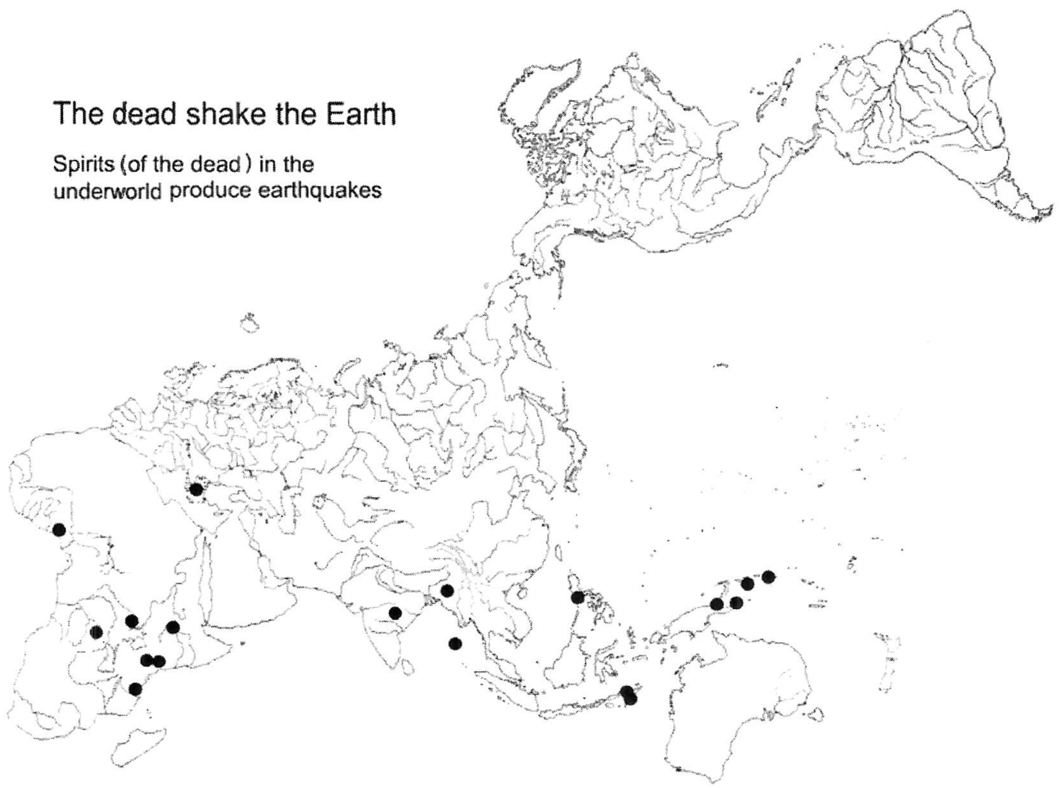
1990: 11-13, 63-72; Pleyte 1894: 97-98; Riftin 1980: 654; Schebesta 1931: 107; Skeat, Blagden 1900: 14-15; 1906: 203-204, 317; Winstedt 1951: 35; Yanshina 1977: 101, 190-191; 1984: 61], among the Papuans and Melanesians (Mejprat, Dugum Dani, Arapesh, Kiaka, Bukavak, Keraki, Kuli, Watut, Middle Ramu River, Fiji) [Aufenanger 1968: 148; Bulmer 1965: 153; Elmberg 1968: 207; Fischer 1963: 99; Heider 1970: 215; Kaspruś 1973: 146; Lehner 1931: 110; Loewenstein 1961: 39; Mead 1940: 380; Waterhouse 1866: 368, 376; Williams 1969: 311] and Central and South American Indians (Yaqui, Tarahumara, Totonac, Sierra Popoluca, Mixtec, Zapotec, Chinantec, Mazatec, Trique, Tzotzil, Chorti, Tzutujil, Mam, Cakchiquel, Pech, Embera, Venezuela Mestizos, Bari, Paez, Cuiva, Panare, Makiritare, Akawaio, Taulipan, Tamanac, Kariña on Orinoco, Waiwai, Wayãpi, Colorado, Jungle Kechua, Murato, Shuar, Aguaruna, Bora, Desana, Macuna, Yagua, Ticuna, Cocama, Omahua, Piapoco, Mura, Manao, all mountain areas of Peru and Bolivia, Amuesha, Ashaninca, Shipibo, Ipurina, Harákmbet, Tacana, Ese'ejja, Baure, Mojo, Chiriguano, Cumana, Tupari, Surui, Waura, Kalapalo, Paresi, Bororo, Caraja, Ramkokamekra, Botocudo, Mataco, Toba, Pilaga, Chorote, Nivakle, Lengua, Vilela, Kechua of Santiago del Estero, Ache all Guarani groups, Mapuche) [Aguavil, Aguavil 1985: 172-174; Albó 1988: 344; Arguedas, Isquirdo Ríos 1947: 66; Barabas, Bartolomé 1979: 130-131; Barbosa Rodrigues 1890: 242-243; Barnadas 1985: 117-118; Basso 1973: 95-96; Bernal Villa 1953: 298-299; Blust 2000: 525; Cadogán 1962: 78-80; 1968: 79; Califano 1974: 46; 1995: 186; Caspar 1975: 195, 199; Chaumeil 1982: 52; Cipolletti 1978: 59-60; Civrieux 1974: 109; 1980: 51, 180-181; Roe 1989: 23-25; Conzemius 1927: 326; Cruz 1946: 33-35; Dyk 1959: 170-171; Ehrenreich 1891: 45; Flores 1989: 36-44; Foletti Castegnaro 1985: 96-97; Foster 1945: 187; Galindo 1990: 225; Girard 1958: 178, 198, 209-210; Goeje 1943: 46; Grenand 1982: 154-163; Grubb 1911: 141; Guallart 1958: 66; Guiteras-Holmes 1961: 203, 235, 288; Hissink, Hahn 1961: 77; Hollenbach 1980: 471; Ichon 1969: 137; Im Thurn 1966: 382; Incháustegui 1977: 41-42; Karsten 1935: 220, 392; Koch-Grünberg 1923: 174, 176; Lehmann-Nitsche 1925: 221-232; Loewen 1969: 126; Mattei Muller 1994: 9; Mercier 1979: 113; Merrill 2002: 344; Metraux 1946: 366; 1948a: 406; 1948b: 712; Metraux, Baldus 1946: 443; Milbrath 1999: 36, 42; Mindlin 1995: 3-5; Nachtigall 1955: 310-311; Nimuendaju 1946a: 234-236; 1946b: 111; 1948: 265; 1952: 120; Nordenskiöld 1912: 294, 296; Penteado Coelho 1988: 522-526; Pereira 1986: 305-308; Petrich 1997: 126; Reichel-Dolmatoff 1971: 79; Santos-Granero 1991: 77-78; Spicer 1980: 64; Steinen 1897: 400; Stirling 1938: 124-129; Tastevin 1923: 531-532; 1925: 178-183; Trupp 1977: 50-56; Turbay Ceballos 1998: 10, 13-15; Urton 1981: 87-90, 93; Valcárcel 1958: 572-575; Van Akkeren 2000: 241; Villamañán 1975: 13-14; Villanes Cairo 1978: 52-54; Wavrin 1932: 141; 1937: 552; Weiss 1975: 489; Weitlaner, Castro Guevara 1954: 109; Whitten 1985: 124; Wilbert 1981: 47; Wilbert, Simoneau 1982a: 126, 134-135; 1982b: 88-91, 177-178, 353; 1987b: 111; 1989a: 17-23, 32-33, 71-81; 1991: 197; Wisdom 1940: 393-397, 410-411; Zuidema 1976: 228]. In Australia it is known practically to all aborigines [Berndt, Berndt 1964: 226; Capell 1939: 393; Elkin 1930: 349-351; Harner, Elkin 1943: 232; Howitt 1904: 431; Kaberry 1935: 435; Mountford 1958: 155-156; Radcliffe-Brown 1926: 21; 1930: 342-344; Robinson 1956: 3-9, 35-37; Rockman Napaljarri, Cataldi 1994: 141; Waterman 1987: 29, 36. 41, 75, 77, 127]. In North America *Rainbow serpent* is found more rarely (Kwakiutl, Makah, Cheyenne, Cherokee, Creek, Yuchi, Shoshoni, Zuni, possibly Swampy Cree and Northern Salteaux) [Carlson 1982: 144; Clark 1953: 161; Cushing 1896: 406-414; Ewers 1981: 42, fig. 9; Hagar 1906: 366; Hodge 1993: 24-28; Powell 1881: 26-27; Simms 1906: 335; Skinner 1911: 157-159; Speck 1909: 110;

Swanton 1928: 480], while Central and Northern Asian cases known to me are only three: Persians, Buryat, and probably Kalash [Crooke 1894: 276; Morgenstierne 1951: 165; Nevski 1934: 372]. In Europe the *Rainbow serpent* is relatively widely spread (French, Bretons, Germans, Serbians, Bosnia Muslims, Poles, all Eastern Slavs, Lithuanians, Estonians, Finns and possibly more) [Afanasiev 1994: 358; Bittremieux 1935: 243-244; Gura 1997: 289-290; Holmberg 1927: 444; Jankovič 1951: 41] though such interpretations here as well as in the before-mentioned Persian and Buryat traditions are rare exceptions.

Along with *Emergence myth* whose areal spread is almost totally complementary to the spread of *Earth-diver* that is typical for northern Eurasia and North America, interpretation of the rainbow is one of the best indicators of the spread of the Austral set of motifs and probably of "Austral" genes. There is also another dichotomy between the Boreal and Austral worlds, related to the rainbow. In continental Eurasia the rainbow has predominantly positive associations while in sub-Saharan African and in Indo-Pacific traditions the associations are almost always negative and the rainbow is considered dangerous, polluted, bringing diseases, etc.

Ensnared Sun. Person prepares a snare or noose to catch the Sun and/or the Sun is caught in a snare by chance (motif A38). Such texts are different from the more general and universally widespread *Sun lost and returned* stories. *The ensnared Sun* is known in Africa, India, Oceania and North America with one doubtful case in South America and were studied by K. Luomala [1940; 1965]. There is an additional link between African and South Asian versions. Only in these regions the Sun is described as an animal (bull, ram, pig). Besides well known Ancient Egyptian ideas (the Sky-cow gives birth to the Sun-calf), in some Western African tales a woman sees an unknown ram and ties it up with a rope after which the world becomes dark because the ram was the embodiment of the Sun. Such an episode is recorded in eastern Nigeria among the Chamba, Jukun "and all the Benue area," the Mbuti Pigmies (the Sun looks like the skin of a pig) and in South Asia among the Munda and Dravidian speaking people of Middle and South India (Bondo, Buna, Agaria, Maria, Toda, a slightly different version among the Gondi). Among Bantu-speaking groups (Kongo, Nkundu, Pende, Luba, Bena-Lulua, Chokwe), stories about the Sun caught in a snare are more Melanesian-like, *i.e.* the Sun is not associated with an animal. The representation of celestial bodies and atmospheric phenomena as a big or middle-sized mammal in Africa is widespread and is also applied to thunder (motif I5; Luba, Kuba, Tetela, Kuta, Mbala, Lamba, Songye, Pangwa, Yoruba, Zande). Most other cases are in the Indo-Pacific Asia and Oceania and in the New World, mostly in South America. The Mongolian and Kalmyk versions are possibly influenced by Chinese beliefs, and the only Northern Eurasian case is among the Kets.

Figure 13.



The dead shake the earth (motif I119; fig. 13). The earthquakes are produced by the dead who are in the underworld (often when they try to climb out to our world). This explanation of the earthquakes is known only to people of Tropical Africa (Luba, Shambala, Kwena, Konde, Chagga, Ewe, Mangbetu, Masai, Konso) [Colle 1913: 428, 720; Jensen 1936: 497-496; Struck 1909: 85-86], Melanesia (Kai of Huon Gulf, Kuli, Ulawa, d'Entrecasteau Islands) [Aufenanger 1968: 148; Coombe 1911: 259; Jenness, Ballantine 1920: 150; Moss 1925: 33], Andaman Islands, Alor and Timor, Negrito of Luzon (Baraan) and Kuki of Northeast India [Das 1945: 217; DuBois 1944: 164; Garvan 1963: 204; Perry 1915: 138; Radcliffe-Brown 1933: 146-147]. Of special interest is the Ancient Greek version known thanks to Plato [Crooke 1894: 119].

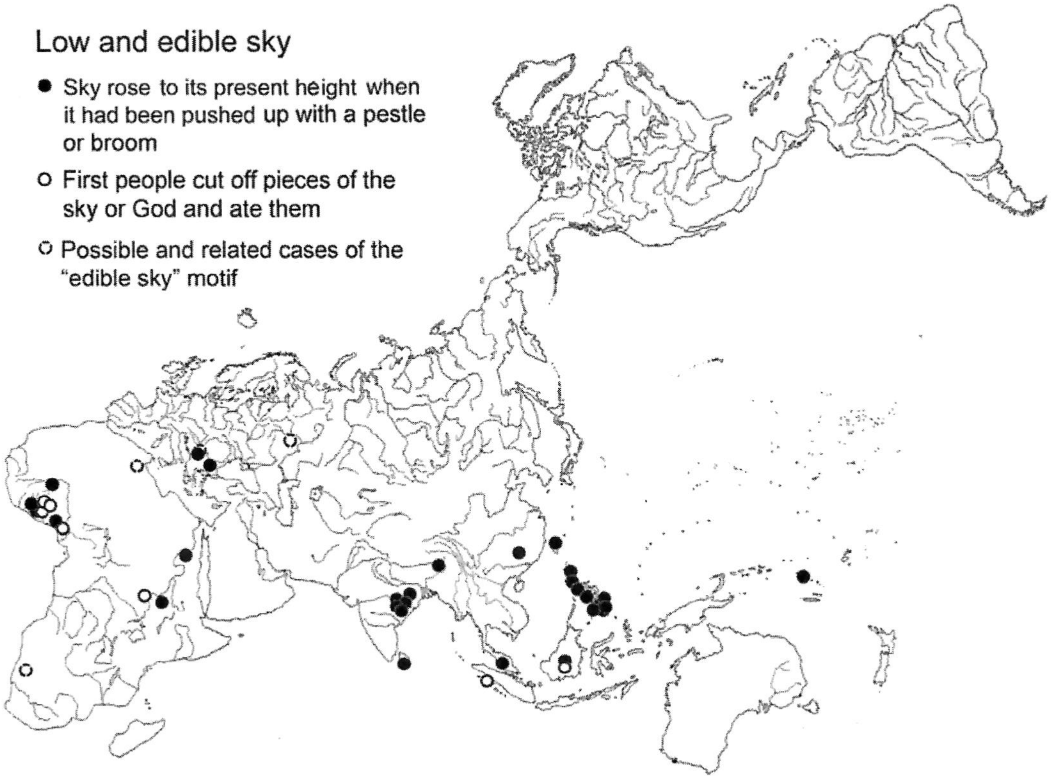
Early Eurasian borrowings in the African set of motifs

I suggested already that some of the motifs found in sub-Saharan Africa, especially in West Africa, may have Eurasian origins. The more materials are acquired, the greater number of motifs that initially seemed to be typically African reveal their probable or possible non-African origins. The time and mechanism of their diffusion into Africa are still far from being clear.

Primeval sky close to earth. The sky was near the earth but then rose (motifs B77).

This motif in its many variations is widespread both in the Continental Eurasian and in Indo-Pacific world but not in Australia. In Africa it is absent among the Khoisan and among most of the Bantu groups (I know but Nyoro and Pare cases) though it is popular in West Africa and Sudan among the non-Bantu people. The Asian links are especially plausible if we look at particular stories that explain separation of the sky and earth.

Figure 14.


Low and edible sky
● Sky rose to its present height when it had been pushed up with a pestle or broom
○ First people cut off pieces of the sky or God and ate them
○ Possible and related cases of the "edible sky" motif

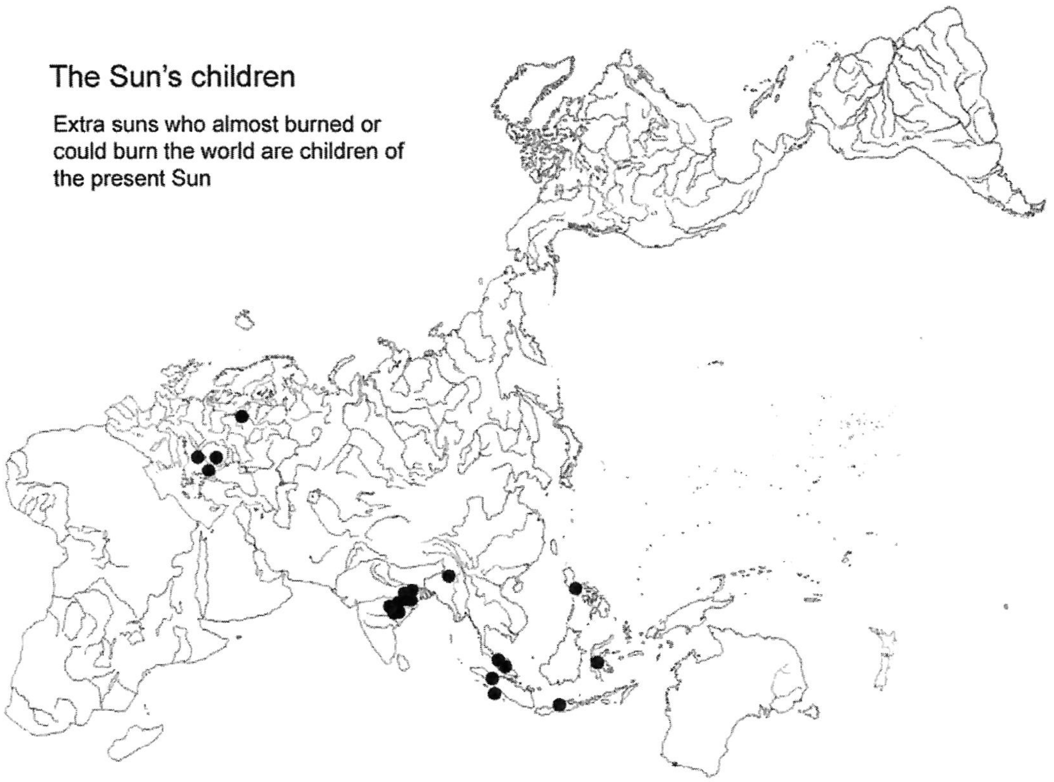
Sky pushed up with a pestle (motif B77B; fig. 14). Originally the sky was low. Pounding seeds or doing some other household work, a person pushes it up with a pestle or broom, and the sky moves away from the earth. The motif is known in West Africa and Sudan among the Nzema, Ewe, Kraci, Ashanti, Giziga, Kapsiki, Nuba, Dinka, Atuot, and Somali [Anpetkova-Sharova 2010: 37-38; Beek 2010: 53; Belcher 2005: 111; Burton 1991: 83; Cardinall 1920: 23; Fischer 1932: 235; Griaule 1938: 48; Grottanelli 1967: 36; Kapchits 1997: 15-16; Lienhardt 1961: 33-34; Olderogge 1959: 158; Parrinder 1967: 35; Studds 1934: 243] and is recorded in a very similar form among the Dravidian, Mundan, Tibeto-Burman, and Aryan groups of South Asia (Warli, Sinhalese, Garo, Birhor, Bondo, Gondi) [Elwin 1949: 79, 82; 1954: 29; Playfair 1909: 84; Volkhonski, Solntseva 1985: 29-30] and the Austronesian-speaking people of Melanesia, Indonesia, Taiwan, and the Philippines (Vanuatu islanders, Mantra, Klemantan, Apayao, Mangian, Manobo, Bagobo, Tagal, Ilokan, Kalinga, Mamanwa Negrito, Bukidnon, Blaan, Subanon, Tiruray, Tboli, and Paiwan) [Egli 1989: 33; Eugenio 1994: 73-74, 90-91, 103-112, 119, 125, 307, 316-317; Fischer 1932: 234; Hervey 1883: 190; Ho 1967: 215; Hose, MacDougall 1912: 142; Skeat, Blagden 1906; Wilson 1947: 20-21]. A somewhat similar motif was known to the Chinese Miao according to which the sky did not rise up immediately when it was knocked with a pestle but a giant raised it [Schotter 1911: 326].

Initially [Berezkin 2009a] I did not exclude the possibility of this motif being of African origin, though its relation to processing of vegetable food with tools often thought to be "neolithic" was worrisome. However, its existence in a not very different form also in the Balkans among the Bulgarians and Serbians [Marinov 2003: 25-26; Jankovič 1951: 23] with more distant analogies among the Hungarians, and its absence among the Khoisan and especially among the Bantu-speaking groups (in which traditions Austral motifs in Africa are usually found) puts such a suggestion under doubt. Though Asian and African cases almost certainly are related, the early dating of *Sky pushed with a pestle* is hardly probable and the direction of dissemination of this motif could be from Asia to Africa and not otherwise.

Sky pushed with a pestle is often combined with the motif of *Edible sky* (H34D; the sky was of an edible substance and the people used it for food). *Edible sky* is known in West Africa and Sudan (Kraci, Mosi, Kasena, Builsa, Bini, Giziga, Kapsiki, Nuba, Dinka) [Beek 2010: 53; Beier 1966: 51; Belcher 2005: 111; Cardinall 1920: 22-23; Kotlyar 2009: 55; Lienhardt 1961: 35; Parrinder 1967: 35; Schott 1989: 260] and in Indonesia among the Nias and Ngadju [Fischer 1932: 217, 223; Grabowsky 1892: 118]. Slightly different but probably related stories are recorded among the Tunisian Berber (Matmata) and Khoikhoi of South Africa [Koropchevski 1874: 14-15; Pâques 1964: 186-187]. Balkan parallels are also present. According to the Serbian story, sky distanced itself from earth when a dog took the Moon for a piece of meat and bit a piece of it [Jankovič 1951: 23, 109]. According to the Chuvash of the Middle Volga region, the sky was low and people took its pieces to use them as medicine [Rekeev 1896: 2].

Many suns as a threat to mankind: Indian – Balkan parallels: Balkan (Serbian, Bulgarian, Romanian) and also Lithuanian parallels exist for the myth about the Sun's children who could destroy life on earth (motif A2C; fig. 15). According to these versions, the Sun had to cancel his marriage (usually with the Moon) when he learned that his future children would destroy life on earth. In one Serbian and in numerous Bulgarian variants, life on earth was saved thanks to a hedgehog. The hedgehog put a stone in the feeding-trough of his donkey and explained that his animal needed to adapt to such food, because when the new little suns appeared, they would burn everything besides stones [Jankovič 1951: 63-64; Johns 2005: 268; Kuznetsova 1998: 78; Marinov 2003: 29; Stoinev 2006: 303]. In some Bulgarian versions, the sun's marriage is canceled because of the devil, not thanks to the hedgehog. In a Rumanian tale, which is strongly influenced by Christian tradition, the motif of the possible emergence of many suns is preserved although the marriage of the sun is not mentioned [Johns 2005: 269]. The Lithuanian story of the canceled marriage of the sun is very much like the Bulgarian and Serbian tales. The primary difference is that frogs, instead of the hedgehog, raise an alarm. When the sun learns that the frogs went to the god to complain, he deprives them of his warmth, and now frogs croak only after sunset [Lebite 1965: 400].

Figure 15.

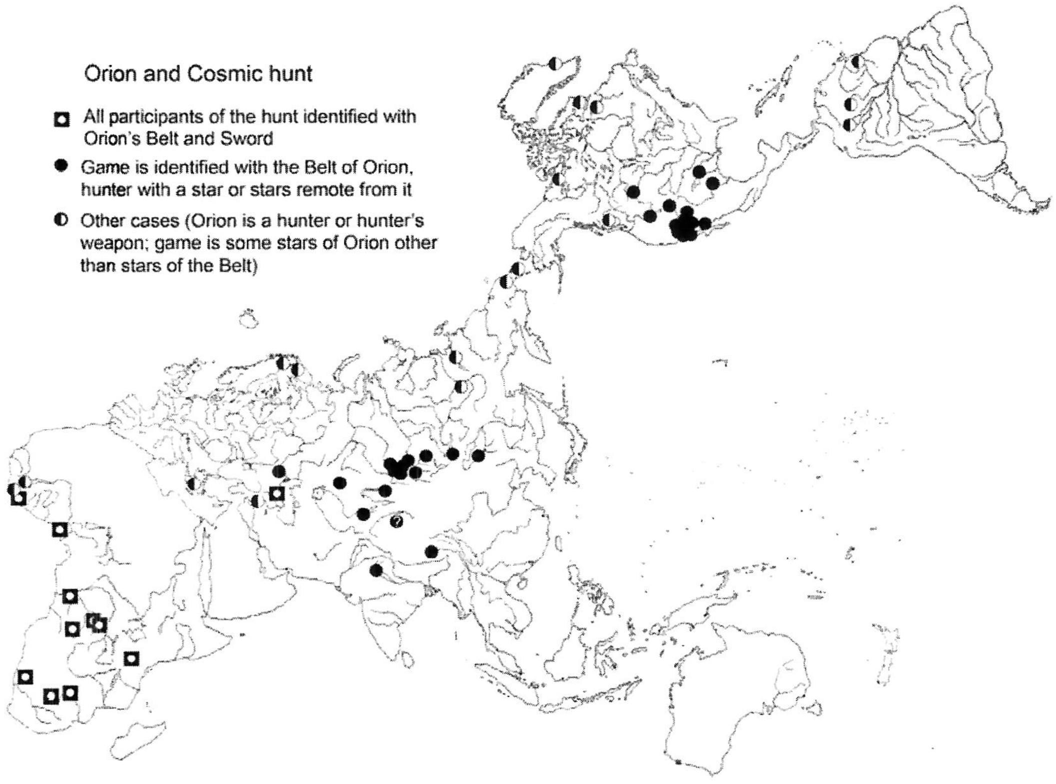

The Sun's children
Extra suns who almost burned or could burn the world are children of the present Sun

Because motifs of *Sun's children are or could be many, Sky pushed with a pestle*, and *Edible sky* are registered across the same three regions, including West Africa and Sudan, South and Southeast Asia, and the Balkan, they appear to be historically related, and this renders doubtful the suggested Paleolithic age for the motif of *Moon tricks Sun to kill his children.* However, the European cases according to which the Sun had to give up his marriage because his future children would produce unbearable heat, are similar only to the Indian stories but not to the African ones [Berezkin 2010c]. These Balkan – Indian parallels are probably of a relatively late date but the African - Indian links are much older. In Africa the Moon tricks the Sun to kill his children, but not because the latter could destroy the earth, and the corresponding motif is absent also in Australia. In the Asian versions the motivation of saving life from excessive heat is the crucial point of the story, and it is just this motif that appears in the European stories.

This is not the only mythological parallel between South Asia and the Balkans. The motif of a potentially disastrous cosmic marriage that is found both in Bulgarian, Serbian, and Lithuanian versions and in Ancient Greek mythology (mortal Peleus and not Zeus becomes Thetis' husband) is extremely rare in world folklore and as far as I know, is found beyond Europe only among the Baiga, Pardhan and Gondi of central India [Elwin 1949: 87-88, 105, 207]. The conflict between the sun and the frogs or toads described in the Lithuanian story also finds parallels in South Asia, this time among the Tibeto-Burman people of the Himalayas, such as the Lepcha, Minyong, Panggi, and Kachin [Elwin 1958: 47-48, 52-53; Gilhodes 1908: 691-693; Stocks 1925: 363-365].

So the core of the myth about sun's children probably spread from Africa to Asia where more elaborated versions developed in which the accent was put on the *Excessive heat of many suns*.

Figure 16.


Orion and Cosmic hunt
◘ All participants of the hunt identified with Orion's Belt and Sword
● Game is identified with the Belt of Orion, hunter with a star or stars remote from it
◐ Other cases (Orion is a hunter or hunter's weapon; game is some stars of Orion other than stars of the Belt)

African vs. Eurasian origins of Cosmic hunt. Certain stars or constellations are interpreted as hunters, their dogs and game which the hunters pursue (B42). A more particular version is known in Africa: three stars of the Belt of Orion are three persons or animals who pursue each other (motif B42R).

Cosmic hunt myth is known across Africa, Eurasia and the Americas. Its independent emergence on different continents is unlikely because of two reasons.

The first one is that African, Eurasian and North American versions share peculiar details. The second, and perhaps more important, fact is the absence of *Cosmic hunt* across Australia, Oceania and the Indo-Pacific borderlands of Asia. This is evidence against the easy spontaneous emergence of such ideas among any people who practiced hunting. In one Maori and two or three Australian tales certain constellations are interpreted as hunters who pursue birds, but the stories themselves are not about hunting, and their main topics are different [Bonwick 1870: 189; Reed 1999: 210-211; Waterman 1987: 99]. Unlike them, the South American stories have the pursuit of game as their principal theme and in this respect do not differ from their North American and Eurasian counterparts.

The Cosmic hunt is the only widespread star myth in sub-Saharan Africa and it is always related there to Orion (fig. 16). In typical versions (Chokwe, Congo, Songye, Luba-Kasai, Gogo, Yoruba, Bamana) one star is a game animal, another a dog and the third one a hunter [Nilsson 1920: 119-120; Pâques 1964: 170; Studstill 1984: 127-131; Thomas 1919: 180; Vieira 2009: 559; Weeks 1914: 293]. In other cases identification of particular stars may be different but the basic principle of one star as one person or animal remains. Among the Sakata and the Tswana all three stars are three dogs, in Khoikhoi version all three stars are animals (zebras) and the Sword of Orion is the hunter, and in the version of Karanga of Zimbabwe three stars are wild pigs and the Sword is a dog or dogs [Colldén 1971: 162; Koekemoer 2007: 75; Nilsson 1920: 120; Sicard 1966: 42-43]. In South Africa three stars of the Belt are usually identified with three animals even in absence of the Cosmic hunt myth itself, *e.g.* three rhinoceros among the Venda, three zebras among the !Kung Bushmen, or three pigs among the Suto [Beyer 1919: 10; Gottschling 1905: 382; http://www.psychohistorian.org/astronomy/ethnoastronomy/africanstarlore.php].

Versions according to which the participants of the story are identified not only with separate stars of Orion but also with entire groups of stars are registered only in West Africa. In another version of Bamana myth, Sirius is a dog, Orion is a hunter, the Pleiades and the Hyades are antelopes of two different species. The Temne of Sierra Leone say that the hunter is Orion and the Pleiades are chickens which he is going to shoot. As mentioned above, interpretation of the Pleiades as chickens is certainly late [Berezkin 2009a], as is possibly the very idea of combining into a coherent picture star objects distant from each other.

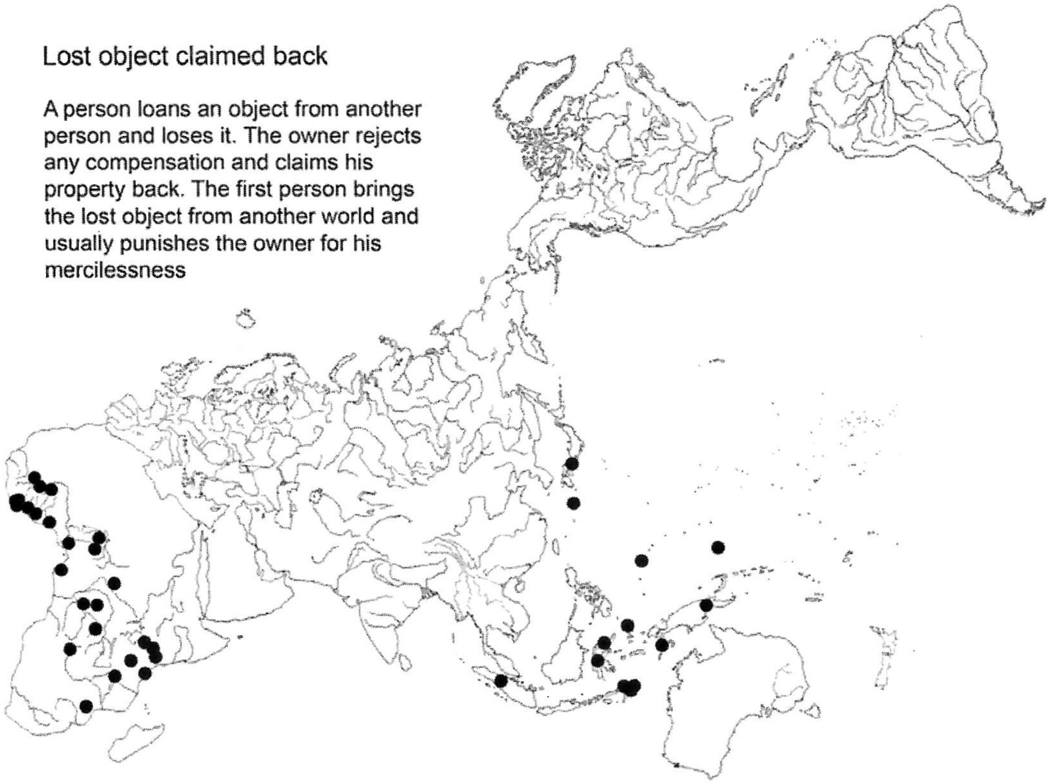
Both Tropical African (hunter, dog, game) and Khoikoi (three animals and a hunter) patterns have their counterparts in Asia. Something like the first variant is found in Dagestan among the Rutul, according to whom three stars of the Belt are a dog who pursues a wolf, a wolf who pursues a goat, and the goat itself, while Orion's Belt is the second goat [Bulatova 2003: 222]. The Khoikhoi variant finds analogies in Turkic-Mongolian - North American Southwestern myth according to which three stars of the Belt of Orion are three deer pierced with an arrow.

If the African and Eurasian cases are historically related, arguments in favor of localization of the prototypical ideas in Asia seem to be more persuasive though not decisive. The existence of the Southwestern North American versions of *Cosmic hunt* based on interpretation of the three stars of the Orion's Belt and similar up to minor details to the Southern Siberian - Central Asian versions [Berezkin 2006b] is evidence in favor of the presence of the latter in Eurasia since at least the Terminal Pleistocene, before the process of peopling of the New World was mostly over. The dog that is persistently included in the African stories was domesticated in Eurasia and certainly was not known in Africa before Early Holocene times. Therefore the African Cosmic hunt tale could be of the same age and source as that version of *Muddled message* that relates the origin of death to the behavior of a dog, sheep, or goat, while in the original African versions it was hare, lizard and chameleon. If the African versions really are derived from the Asian ones, this, however, hardly could have happened during the last three or four millennia because the Cosmic hunt stories are absent both in Ancient Egyptian and Near Eastern mythologies and in recent Near Eastern and North African traditions. For the latter Ursa Major is the important stellar object while the Belt of Orion is not, being sometimes ignored altogether.

Lost object claimed back (fig. 17). A person loans an object from another person and loses it. The owner rejects any compensation and claims his property back. The first person brings the lost object from another world and usually punishes the owner for his mercilessness. In most of the cases both persons are male and the object is hunting or fishing device or a fish itself. Such stories are very popular across most of Tropical Africa (Batanga, Baule, Bete, Bobo, Diula, Dogon, Grebe, Ife, Issansu, Kamba, Kikuyu, Kongo, Luchasi, Luo, Mano, Mofu-Gudur, Mongo, Ndau, Nsema, Nyandja, Nzakara, Sakata, Sorko, Swahili, Tangale, Western Dan, Yoruba) [Baker 1927: 283-6; Colldén 1971: 70-72; Fischer 1967: 714-715; Frolow 1968: 245-247; Grottanelli 1989: 84-86; Holland 1916: 128; Kohl-Larsen, Allensbach 1937: 38-40; Mesquitela Lima 1968: 257-260; Nassau 1915: 45-47; Paulme 1968: 190-191, 198-199; Retel-Laurentin 1968: 208-209, 215-219, 225-226; 1986: 127-132] and have close parallels across Indonesia and Western Micronesia (Palau, Minahasa, Toraja, Batak, Bunak, Tetum, Roti, Galela, Kai Islands) [Braginski 1972: 54-7; Dixon 1916: 156-157; Hicks 2007: 45-49; Matsumoto 1928: 110-112] including the Polynesian-speaking but geographically Micronesian Kapingamarangi atoll [Elbert 1949: 243]. At least one Papuan case is also recorded at Kutubu Lake [Williams 1941: 139-140], while in Japan the motif was used in "Kojiki" (A.D. 712) and in fairy-tales from northern Ryukyu Islands [Ikeda 1971: 121-122; Kojiki 1994, ch. 33-35: 90-96].

The Austronesian, Papuan and Japanese stories contain an additional detail that is absent in Africa. The harpoon or hook is the cause of disease of a water-dweller who has been hit with it. The disease cannot be cured by local medicine-men but when the hero extracts his harpoon or hook, the injured person becomes well again. This latter motif is characteristic for the Northern Pacific region of Siberia and America where the African – Asian motif of the harpoon claimed back is absent.

Figure 17.



Lost object claimed back

A person loans an object from another person and loses it. The owner rejects any compensation and claims his property back. The first person brings the lost object from another world and usually punishes the owner for his mercilessness

African stories have their own details that are absent in Asia. In many West African traditions (Bobo, Diula, Dogon, Grebe, Ife, Mano, Tangale, Yoruba) and among the Kongo one or both protagonists are women and the object is not a hunting tool but a dish, a comb, a hoe, etc. In different African traditions but especially often in Bantu stories the antagonist makes a demand to the hero which is correct in form but really is unjustified. The hero fulfills the claims or is punished. After that antagonist takes an object or animal possessed by the hero, is unable to give it back and is punished more severely (Batanga, Baule, Dogon, Grebe, Issansu, Kaguru, Kongo, Luchasi, Luo, Mano, Mongo, Ndau, Nzema, Sakata, Swahili, Tangale, Western Dan). An Ancient Egyptian tale according to which the younger brother asks the elder one to guard his dagger, steals it himself and claims back is not identical to the Tropical African tales but still shares with them common elements.

Culturally unspecific stories of adventures which lack cosmological connotations are subject to easy borrowing. Some of the African tales definitely are not just stories of adventure but are well ingrained into local cosmologies. Following the animal that ran away with his spear, a man descends to the underworld where he gets to know that the forest animals are his dead relatives. Or when he gets his spear back, he receives also the Moon as a gift and the night luminary ultimately ascends to the sky. Nevertheless the core of *Lost object claimed back* stories both in Africa and in the Austronesian world has nothing to do with cosmology and the Paleolithic age for it is very doubtful. Because the story is not found among the Malagasy, its spread to Africa by the Austronesian voyagers does not seen plausible. The earlier time is more probable but the direction of borrowing remains uncertain. All other out-of-Africa parallels for African stories of adventure are found in Eurasia, so the *Lost object claimed back* is a unique case that possibly will never find explanation.

In favor of the possibility of infiltration of the Indo-Pacific motifs back into Africa that predates the Malagasy migration is the areal spread of the *Strong and weak* motif. It is the only transcontinentally known "death-motif" for which African origins are doubtful.

Strong and weak. People are mortal because they have been likened to something subject to decay and easy destruction, *e.g.* to soft wood and not to stone (motifs H9 – H9b).

Bantu Africa: Issansu, Chagga, Sukuma [Abrahamsson 1951: 46-47; Millroth 1965: 199-200]. **West Africa**: Nupe [Abrahamsson 1951: 68]. **Sudan and non-Bantu East Africa**: Acholi, Malagasi [Abrahamsson 1951: 71, 120-121]. **Melanesia**: Jupta Valley, Urawa Valley, Gazelle-Peninsula [Anell 1964: 113; Meier 1909: 39-41, Yamada 2002: 69]. **Malaysia – Indonesia–the Philippines**: Semang, Mentawei, Nias, Ngadju, Bahau, Dusun, Toraja, Mori, Balantak, Wemale, Tboli [Adriani, Kruyt 1951: 11-12; Dixon 1916: 182; Endicott 1979: 83-85; Eugenio 1994: 307-308; Fischer 1932: 213-215, 220-225, 241; Gomes 1911: 197; Kruyt 1938: 435-437; Prager 2005: 106; Schärer 1966: 144-146; Schefold 1988 73-75; Skeat, Blagden 1906(2): 337-338; Stöhr, Zoetmulder 1965: 39-40, 43]. **Siberia**: Mansi, Western Tungus [Lukina 1990: 298-299; Munkácsi 1908: 228-230; Vasilevich 1959: 175-176]. **East Asia**: Japanese, Ainu [Etter 1949: 22-23; Kojiki 1994, ch. 32: 88-89]. **Eskimo**: Chugach [Doroshin 1866: 369]. **Western Subarctic**: Ingalik, Koyukon, Upper Tanana, Athna, Tahltan [Attla 1983: 129-137; McKennan 1959: 213; Nelson 1983: 20; Osgood 1959: 103; Rooth 1971: 343; Teit 1919: 216]. **NW Coast**: Tlingit, Tsimshian, Haida [Boas 1902: 72; 1916: 664; 2002: 561, 623; Deans 1891: 34; Swanton 1908: 319; 1909: 18, 81]. **Plains**: Plains Ojibwa, Cheyenne [Grinnell 1908: 279; Simms 1906: 338-339]. **Northern Andes, Southern Venezuela, Guiana**: Embera, Sanema, Yanomam, Kaxúyana, Kariña, Trio [Brett 1880: 108-109; Frikel 1970: 13-17, 19; Koelewijn, Riviere 1987: 45; Magaña 1987: 139; Rochereau 1929: 86-87; Wassen 1933: 110; Wilbert, Simoneau 1990b: 111, 375-377]. **Western Amazonia**: Shuar, Aguaruna [Chumap Lucía, García-Rendueles 1979: 247-251; Pelizzaro 1990: 169, 172-173; Rueda 1987: 60-61]. **Montaña**: Ashaninca, Machiguenga [Baer 1984: 188, 225, 242, 244; Weiss 1975: 407-408]. **Southern Amazonia, Eastern Brazil**: Kuikuru, Kamaiura, Bororo, Caraja, Apinaye [Ehrenreich 1891: 39; Münzel 1973: 52-53, 149; Villas Boas, Villas Boas 1973: 211; Wilbert 1978: 174; Wilbert, Simoneau 1983: 80-81].

Strong and weak is the main "death-motif" across Pacific Asia. In corresponding myths the mortal nature of man is usually considered to be compensated with his ability to propagate like plants and unlike stones which are eternal but do not have children. Besides Pacific Asia, such an idea is known in North and South America, being especially popular among the Na-Dene groups of the North American Northwest.

It is possible that *Strong and weak* motif was widespread also in Siberia, where it was replaced recently with the story about an antagonist who spoiled human figures made by god before the latter could insert in them the immortal soul [Berezkin 2010c]. Such a myth is known also in Southeast Asia and the relation between both motifs in northern and southern Eurasia needs further investigation. The existence of Siberian versions contradicts the dichotomy between Boreal and Austral motifs and needs explanation. Both continental Eurasian and Pacific populations could have taken part in the peopling of Siberia before and after the LGM. Western Siberian mythologies (unlike the tradition of southern Siberia and the Yakuts, the newcomers from the south) have a strong Pacific component and share many stories with mythologies of Lower Amur, Chukotka and the North American Northwest [Berezkin 2006a].

In Africa the motif is rare and recorded mostly in the east, *i.e.* in Tanzania. The Malagasy tradition is definitely related to the Indonesian one. A unique West African case among the Nupe (Benue-Congo group of Nigeria) can be, however, interpreted as a result of an earlier diffusion of the motif across the Tropical Africa.

Conclusions

The world distribution of motifs related to the explanation of the mortal nature of human beings attests to their spread from Africa ca. 60,000 years ago with bands of modern people, first to Indo-Pacific Asia and Australia and later to the New World. It is easily understandable why just this theme attracted attention of the people at the early stages of cultural evolution. An alternative interpretation that the death motifs initially appeared in Asia and then spread both to the Americas and to Africa cannot be completely rejected. However the popularity and diversity of these motifs in Africa is greater than in Indo-Pacific Asia and Australia, so considering the out-of-Africa scenario based on the data of genetics and archaeology, their African origin is the simplest explanation. Apart from Africa, the "death-motifs" are especially popular in South America where the number of recorded texts is the greatest. However, we should take into consideration that the South American folklore traditions are much richer and better studied, so in the overall totality of cosmological and etiological myths the "death-myths" in South America occupy a less distinguished position than in Tropical Africa.

The African origin of the *Emergence myth*, *i.e.* the emergence of the first people (and not of a primeval couple alone) from under the earth or from an enclosure on the earth's surface (stone, tree, etc.) and of interpretation of rainbow as a serpent are also probable. I would stress again that the folklore data itself does not help us to define the direction of diffusion. However, the strict dichotomy between the Boreal and Austral parts of the Globe regarding the distribution of corresponding motifs undermines the hypothesis of their independent emergence in Africa, Indo-Pacific Asia and the Americas, while the archaeological and genetic materials prove that the migration of modern man was from Africa to Asia and to America and not in the opposite direction. The story about the Moon who tricked the Sun to destroy his or her children also must have been known in Africa before 60,000 b.p. The Australian parallels (one bird tricks another and the last egg of the tricked bird turns into the Sun) are especially important because they cannot be explained by a hypothesis of the reverse movement of ideas from South Asia to Africa. *Venus as the Moon's wife*, *Milky Way as divider of seasons*, and *the Dead shake the earth* may have African origins, though the number of registered cases is perhaps not large enough for convincing conclusions.

The most interesting object of future research might be the possible diffusion of folklore-mythological motifs to Africa from Eurasia. Some such borrowings are recent, but some others could be prehistoric, related to the trans-Saharan trade contacts in Antiquity, to the spread of Afrasian languages and the back migrations to Africa in the Paleolithic. As far as I know questions of when and how particular stories and motifs appeared in African folklore and mythology were never put because the predominant approaches to the study of folklore were anything else but historical (typological, structural, psychological, functional). In this paper I addressed only a minor part of African folklore materials which are an important and still largely ignored source of historical information.

Literature cited

Abrahamsson, Hans. 1951. The Origin of Death. Studies in African Mythology. Uppsala: Theological Faculty of the University of Uppsala. 179 p.

Adamson, Thelma. 1934. Folk Tales of the Coast Salish. New York: American Folklore Society 430 p.

Adriani, N., Alb. C. Kruyt. 1950. De Bare'e Sprekende Toradjas van Midden-Celebes (de Oost-Toradjas). Deel I. Amsterdam: N.V. Noord-Hollandsche Uitgevers Maatschappij. 478 p.

Adriani, N., Alb. C. Kruyt. 1951. De Bare'e Sprekende Toradjas van Midden-Celebes (de Oost-Toradjas). Deel II. Amsterdam: N.V. Noord-Hollandsche Uitgevers Maatschappij. 537 p.

Afanasiev, Aleksander N. 1994. Poeticheskie vozzrenia slavian na prirodu [Poetic Views of the Slavs towards nature]. Vol. 1. Moscow: Indrik [reprint of 1869]. 809 p.

Afanasieva, Veronika K. 1997. Ot nachala nachal. Antologia shumerskoi poezii [From the Beginnings of the Beginnings. Anthology of Sumerian Poetry]. Saint-Petersburg: Peterburgskoe Vostokovedenie. 494 p.

Aguavil, Alfonso, & Primitivo Aguavil. 1985. Ilusun. 50 leyendas de los indios Colorados. Guayaquil: Banco Central del Ecuador. 395 p.

Albó, Xavier. 1988. Raíces de América. El mundo Aymara. Madrid: Alianza Edicional y UNESCO. 607 p.

Altenfelder Silva, F. 1946. Terena religion. Acta Americana IV(4): 214-223.

Alvárez, R. P. José. 1942. Mitología, tradiciones y creencias religiosas de los salvajes Huarayos. Actas y Trabajos del XXVII Congreso Internacional de Americanistas. Lima, 1939. Vol. 2. P. 153-161.

Andersson, Efraim. 1974. Contribution à l'Ethnographie des Kuta II. 212 p.

Andrade, Manuel J. 1931. Quileute Texts. New York. Columbia University 219 p.

Anell, Bengt. 1964. The origin of death according to the traditions in Oceania. Studia ethnographica upsaliensia 20: 1-32.

Anokhin, Andrei V. 1924. Materialy po shamanstvu u altaitsev [Materials on the Shamanism among the Altai]. Leningrad: Museum of Anthropology and Ethnography. 248 p.

Anonimo. 1955. Fábulas e lendas das origenes. Missões 8(1): 35-38.

Anpetkova-Sharova, Gayana. 2010. Skazki narodov Afriki [Folk-Tales of African People]. Saint-Petersburg: Saint-Petersburg State University. 516 p.

Anuchin, Vasili I. 1914. Ocherk shamanstva u yeniseiskih ostiakov [An Essay on the Shamanism among the Yenissei Ostyaks]. Saint-Petersburg: Museum of Anthropology and Ethnography. 90 p.

Archambault, Joallyn. 2006. Native views of origins. Handbook of North American Indians, vol. 3, Environments, Origins, and Population. Douglas M. Ubelaker, volume editor. Washington: Smithsonian Institution. Pp. 4-15.

Arguedas, José María & Francisco Izquierdo Ríos. 1947. Mitos, Leyendas y Cuentos Peruanos. Lima: Dirección de Educación Artística y Extensión Cultural. 331 p.

Århem, Kaj, Luis Cayón, Gladys Angulo, & Maximiliano García. 2004. Etnografía Makuna. Göteborg: Göteborg University; Bogotá: Instituto Colombiano de Antropología e Historia. 575 p.

Ariel de Vidas, Anath. 2002. A dog's life among the Teenek Indians (Mexico): animals' participation in the classification of self and other. Journal of the Royal Anthropological Institute Incorporating Man 8(3): 531-550.

Attla, Catherine. 1983. Sitsiy Yugh Noholnik Ts'in'. As My Grandmother Told It. Traditional Stories from the Koyukuk told by Catherine Attla. Fairbanks: Yukon-Koyukuk School District and Alaska Native Language Center. 258 p.

Aufenanger, Heinrich. 1968. Notes on the culture of the Kuli in the Western Highlands of New Guinea. Asian Folklore Studies 27(1): 147-155.

Aung, Maung Htin. 1957. Birmanskie narodnye skazki [Burmese Folk-Tales]. Trans. from English. Moscow: Izdetel'stvo inostrannoi literatury. 144 p.

Aytai, Desidério. 1979. Weheriá Karajá conta a lenda do sol. Publicações do Museu Historico de Paulínia 8: 7-12.

Azevedo Gomes, Francisco de. 1972. Os Fataluku. Dissertação de licenciatura apresentada ao Instituto Superior de Ciências Sociais e Política Ultramar. Universidad Técnica de Lisboa. 235 p.

Bader, Hermann. 1971. Der Regenbogen in der Auffassung der Florinsen. Anthropos 66(5-6): 947-955.

Baer, Gerhard. 1984. Die Religion der Matsigenka, Ost-Peru. Basel: Wepf & Co. 516 S.

Baker, E.C. 1927. Swahili folktales. Folk-Lore 38(2, 3): 182-204, 272-305.

Baldus, Herbert. 1931. Indianerstudien im nordöstlichen Chaco. Leipzig: Hirschfeld. 230 S.

Baldus, Herbert. 1950. Lendas dos Indios Tereno. Revista do Museu Paulista 4: 217-232.

Barabas, Alicia M., & Miguel A. Bartolomé. 1979. Un testimonio mítico de los Mataco. Journal de la Société des Américanistes 66: 125-131.

Barag, Lev G. 1987. Bashkirskoe narodnoe tvorchestvo. T. 1. Predaniya i legendy [Bashkir Folklore. Vol. 1. Tales and Legends]. Ufa: Bashkirskoe knizhnoe izdatel'stvo. 576 p.

Barbosa Rodrigues, João. 1890. Poranduba Amazonense. Rio de Janeiro: Bibliotheca Nacional do Rio de Janeiro. 334 p.

Barcelos Neto, Aristóteles. 2001. O universo visual dos xamãs Wauja (Alto Xingu). Journal de la Société des Américanistes 87: 137-160.

Barett, W.E.H. 1911. Notes on the Wa-Sania. The Journal of the Royal Anthropological Institute of Great Britain and Ireland 41: 29-39.

Barnadas, J.M. 1985. Francisco Javier Eder. Breve descripción de las reducciones de Mojos [1772]. Ed. J.M. Barnadas. Cochabamba: Impresiones Poligraf. 424 p.

Barnes, R.H. 1973. The rainbow in the representations of inhabitants of the Flores area of Indonesia. Anthropos 68(3-4): 611-613.
Barroso, Gustavo. 1930. Mythes, contes et légendes des Indiens. Folk-lore brésilien. Paris: Ferroud. 179 p.
Basso, Ellen B. 1973. The Kalapalo Indians of Central Brazil. New York etc.: Holt Rinehart & Winton 157 p.
Batchelor, John. 1927. Ainu Life and Lore. Echoes of a Departed Race. Tokyo: Kyobunkwan. 448 p.
Baumann, Hermann. 1936. Schöpfung und Urzeit des Menschen im Mythus der Afrikanischen Völker. Berlin: Dieter Reimer. 435 S.
Beck, Peggy V., Anna L. Walters, & Nia Francisco. 2001. The Sacred. Ways of Knowledge, Sources of Life. Tsaile, Arizona: Diné College. 368 p.
Beckwith, Martha. 1938. Mandan-Hidatsa Myths and Ceremonies. Boston: the American Folk-Lore Society. 327 p.
Becker-Donner, Etta. 1955. Notizen über einige Stämme an den rechten zuflüssen des Rio Guaporé. Archiv für Vólkerkunde 10: 275-343.
Becker-Donner, Etta. 1963. Einige Legenden der Kanoä am Rio Corumbiara, Territorio Rondonia, Brasilien. Festschrift Paul Schebesta zum 75. Geburtstag. Mödling bei Wien: St. Gabriel-Verlag. S. 447-452.
Beckwith, Martha. 1970. Hawaiian Mythology. Honolulu: University of Hawaii Press. 575 p.
Beek, Walter E.A. van. 2010. Tales of death and regeneration in West Africa. New Perspectives on Myth. Wim M.J. van Binsbergen & Eric Venbrux, eds. Haarlem: An African Journal of Philosophy. P. 41-58.
Beidelman, Thomas O. 1967. Hyena and rabbit: a Kaguru representation of matrilineal relations. Myth & Cosmos. Readings in Mythology and Symbolism. John Middleton, ed. Austin & London: University of Texas Press. P. 287-301.
Beier, Ulli. 1966. The Origin of Life and Death. African Creation Myths. London, Ibadan, Nairobi: Heinemann. 65 p.
Belcher, Stephen. 2005. African Myths of Origin. London: Penguin Books. 509 p.
Bellier, Irène. 1991. El Temblor y La Luna. Ensayo sobre las Relaciones entre las Mujeres y los Hombres Mai Huna. Tomo II. Quito: Ediciones Abya-Yala. 326 p.
Berezkin, Yuri. 1998. Central and South American Indian Mythologies: First Results of Computer Processing. Acta Americana (Stockholm - Uppsala) 6: 1: 77-102
Berezkin, Yuri. 1999. What truth myths contain?. Revista de Filologia y Lingüistica de la Universidad de Costa Rica 25: 89-125.
Berezkin, Yuri. 2002. Some results of comparative study of American and Siberian mythologies: applications for the peopling of the New World. Acta Americana (Stockholm – Uppsala) 10(1): 5-28.
Berezkin, Yuri. 2003. Southern Siberian – North American Links in Mythology. Archaeology, Ethnology & Anthropology of Eurasia 2 (14): 94-105.
Berezkin, Yuri. 2005a. The assessment of the probable age of Eurasian-American mythological links. Archaeology, Ethnology & Anthropology of Eurasia 1(21): 146-151.
Berezkin, Yuri. 2005b. Continental Eurasian and Pacific Links in American Mythologies and Their Possible Time-depth. Latin American Indian Literatures Journal 21(2): 99-115
Berezkin, Yuri. 2006a. Folklore-mythological parallels among peoples of Western Siberia, Northeastern Asia, and the Lower Amur – Primorye region. Ethnology & Anthropology of Eurasia 3(27): 112-122.
Berezkin, Yuri. 2006b. The cosmic hunt: variants of a Siberian – North-American myth. Folklore (Tartu) 31: 79-100.

Berezkin, Yuri. 2007. "Earth-diver" and "emergence from under the earth": cosmological tales as an evidence in favor of the heterogenic origins of American Indians. Archaeology, Ethnology & Anthropology of Eurasia 4(32): 110-123.
Berezkin, Yuri E. 2009a. Out of Africa and further along the Coast (African - South Asian - Australian mythological parallels). Cosmos (Edinburgh) 23(1): 3-28.
Berezkin, Yuri E. 2009b. Why are People Mortal? World Mythology and the "Out-of-Africa" Scenario. Ancient Human Migrations. A Multidisciplinary Approach. Ed. by Peter N. Peregrine, Ilia Peiros, and Marcus Feldman. Salt Lake City: The University of Utah Press. P. 242-264.
Berezkin, Yuri. 2010a. The Pleiades as openings, the Milky Way as the path of birds and the girl on the Moon: cultural links across Northern Eurasia. Folklore (Tartu) 44: 7-34.
Berezkin Yuri. 2010b. The emergence of the first people from the underworld: Another cosmogonic myth of a possible African origin. New Perspectives on Myth. Proceedings of the Second Annual Conference of the International Association for Comparative Mythology. Ravenstein (the Netherlands), 19-21 August, 2008. Wim M.J. van Binsbergen & Eric Venbrux, eds. Haarlem: An African Journal of Philosophy. P. 109-125.
Berezkin, Yuri. 2010c. Spoiled creation: European folk beliefs and Asian mythologies. Aramazd: Armenian Journal of Near Eastern Studies IV(2): 7-35.
Bernal Villa, Segundo. 1953. Aspectos de cultura Páez. Revista Colombiana de Antropología 1(1): 279-303.
Bernardi, Bernardo. 1978. Embu cosmological tales. Paideuma 24: 179-189.
Berndt, Ronald M. & Catherine H. Berndt. 1964. The World of the First Australians. London: Angus & Robertson. 509 p.
Beyer, Rev. G. 1919. Suto astronomy. South African Journal of Science 16: 206-210.
Bierhorst, John. 1995. Mythology of the Lenape. Guide and Texts. Tucson: The University of Arizona Press. 147 p.
Birket-Smith, Kaj. 1924. Ethnography of the Egedesminde District with Aspects of the General Culture of West Greenland. København: Bianco Lunos Bogtrykkeri. 484 p.
Bittremieux, Leo. 1935. La Société Secrète des Bakhimba au Mayombe. Institut Royal Colonial Belge. 327 p.
Blackwood, Beatrice. 1939. Folk-stories of a stone age people in New Guinea. Folk-Lore 50(3): 209-242.
Bley, P. 1914. Sagen der Baininger auf Neupommern, Südsee. Anthropos 9(1-2): 196-220.
Blixen, Olaf. 1994. La vida breve. La introducción de la muerte entre los hombres según la mitología sudamericana. Moana (Montevideo) 4(4): 1-74.
Blust Robert. 2000. The origin of dragons. Anthropos 95: 519-536.
Boas, Franz. 1901. The Eskimo of Baffin Land and Hudson Bay. New York. Bulletin of the American Museum of Natural History, vol. 15, pt. I, pp. 4-370.
Boas, Franz. 1902. Tsimshian Texts. Washington D.C.: Smithsonian Institution. 244 p.
Boas, Franz. 1916. Tsimshian mythology. 31th Annual Report of the Bureau of American Ethnology to the Secretary of the Smithsonian Institution (1909-1910): 29-1037.
Boas, Franz. 1917. The origin of death. Journal of American Folklore 30: 486-491.
Boas, Franz. 1928. Keresan Texts. New York. American Ethnological Society. 300 p.
Boas, Franz. 2002. Indian Myths and Legends from the North Pacific Coast of America. Vancouver: Talonbooks. 702 p.
Bodding, Paul O. 1942. Traditions and Institutions of the Santals. Oslo: Oslo Etnografiske Museum. 198 p.
Bompas, Cecil H. 1909. Folklore of the Santal Parganas. London: David Nutt. 483 p.
Boremanse, Didier. 1986. Contes et Mythologie des Indiens Lacandon. Paris: L'Harmaten. 407 p.

Bourlet, Antoine. 1907. Les Thay. Anthropos 2(6): 921-932.
Bowers, Alfred W. 1950. Mandan Social and Ceremonial Organization. Chicago: The University of Chicago Press. 407 p.
Braginski, V. 1972. Volshebny zhezl. Skazki narodov Indonezii i Malaizii [Magic Staff. Folktales of Indonesian and Malaysian Peoples]. Moscow: Khudozhestvennaia literatura. 214 p.
Brett, William H. 1880. Legends and Myths of the Aboriginal Indians of British Guiana. London: William Wells Gardner. 206 p.
Briffault, Robert. 1927. The Mothers. A Study of the Origins of Sentiments and Institutions. Vol. 2. London: George Allen & Unwin; New York: The Macmillan Co. 789 p.
Brown, George. 1910. Melanesiand and Polynesians. Their Life Stories Described and Compared. London: MacMillan & Co. 451 p.
Brüzzi, Alcionílio A. da Silva. 1994. Creençias e Lendas do Uaupes. Quito: Ediciones Abya-Yala. 368 p.
Bulatova, Angara G. 2003. Rutul'tsy in XIX – nachale XX vv. [The Rutuls in XIX - early XX century]. Moscow: Institut etnologii i antropologii RAS. 280 p.
Bulmer, R.N.H. 1965. The Kyaka of the Western Highlands. In P. Lawrence, M.J. Meggitt, eds. Gods, Ghosts, and Men in Melanesia. Melbourne, etc.: Oxford University Press. P. 132-161.
Bundy, Richard C. 1919. Folk-tales from Liberia (in abstract). Journal of American Folklore 32(125): 406-427.
Bunzel, Ruth L. 1932. Zuñi origin myths. 47th Annual Report of the Bureau of American Ethnology to the Secretary of the Smithsonian Institution (1929-1930). P. 545-609.
Burrows, Edwin G., & Melford E. Spiro. 1957. An Atoll Culture. Ethnography of Ifaluk in the Central Carolines. New Haven: Human Relations Area Files. 355 p.
Burton, John W. 1991. Representations of the femenine in Nilotic cosmologies. Uppsala. Uppsala Studies in Cultural Anthropology 16: 81-98.
Cadogán, León. 1962. Baiõ Kará Wachú y otros mítos Guayakíes. América Indígena 22(1): 39-82.
Cadogán, León. 1968. Chono Kybwurá: aporte al conocimiento de la mitología Guaraní. Suplemento Antropológico de la Revista del Ateneo Paraguayo 3(1): 55-158.
Califano, Mario. 1974. El concepto de enfermedad y muerte entre los mataco costaneros. Scripta ethnologica 2(2): 33-73.
Califano, Mario. 1980. Muerte, miedo y fascinación en la crisis de embüye de los Mashco de la Amazonía Sudoccidental. Runa 13(1-2): 125-151.
Califano, Mario. 1995. La concepción del mundo entre los *Huachipaire* (Harakmbet). El *KÜREDN-NDÁRI* (cielo). Scripta ethnologica 17: 181-190.
Capell, Arthur. 1939. Mythology in Northern Kimberley, North-west Australia. Oceania 9(4): 382-494.
Cardinall, Allan W. 1920. The Natives of the Northern Territories of the Gold Coast. London: Routledge & sons; New York: E.P. Dutton & Co. 158 p.
Carlson, John B. 1982. The double-headed dragon and the sky. A pervasive cosmological symbol. In Anthony E. Aveni & Gary Urton, eds. Ethnoastronomy and Archaeoastronomy in the American Tropics. New York: the New York Academy of Sciences. P. 135-163.
Casanova Velásquez, Jorge. 1990. El mito de los ancestros Secoya. Amazonía Peruana 10(19): 89-98.
Caspar, Franz. 1953. Three myths of the Mosetene Indians (Rio Beni, Bolivia). Ethnos 18(3-4): 167-174.
Caspar, Franz. 1975. Die Tuparí. Ein Indianerstamm in Westbrasilien. Berlin; New York: de Gruyter. 321 S.

Chaplin, J.H. 1959. A preliminary note on the rainbow in Africa South of the Sahara. Ethnos 24(3-4): 151-171.

Chaumeil, Jean-Pierre. 1982. Représentation du monde d'un chamane Yagua. L'Ethnographie 78(2-3): 49-53.

Chaumeil, Jean-Pierre. 1983. Voir, Savoir, Povoir. Le Chamanism chez les Yagua du Nord-Est Pérouvien. Paris: Éditions de l'École des Hautes Étides en Sciences Sociales. 352 p.

Chumap Lucía, Aurelio, & Manuel A. García-Rendueles. 1979. Duik múun. Universo Mítico de los Aguaruna. Lima: Centro Amazónico de Antropología y Aplicación Práctica. 866 p.

Cipolletti, María S. 1978. Mitologia chiriguana. Cuadernos Franciscanos 49: 47-65.

Cipolletti, María S. 1988. Aipë Koka. La Palabra de los Antiguos. Tradición Oral Siona-Secoya. Quito: Ediciones Abya-Yala. 286 p.

Civrieux, Marc de. 1974. Religión y Magia Kari'ña. Caracas: Instituto de Investigaciones Históricas. 132 p.

Civrieux, Marc de. 1980. Watunna. An Orinoco Creation Cycle. San Francisco: North Point Press. 200 p.

Clark, Ella E. 1953. Indian Legends of the Pacific Northwest. Berkeley & Los Angeles: University of California Press. 225 p.

Clark, Ella E. 1966. Indian Legends from the Northern Rockies. Norman: University of Oklahoma Press. 350 p.

Clastres, Pierre. 1972. Chronique des Indiens Guayakí. Paris: Plon. 357 p.

Codrington, Robert H. 1881. Religious beliefs and practices in Melanesia. The Journal of the Anthropological Institute of Great Britain and Ireland 10: 261-316.

Codrington, Robert H. 1891. The Melanesians. Studies in Their History, Anthropology and Folk-lore. Oxford: Clarendon Press. 419 p.

Cole, Herbert M. 1982. Mbari. Art and Life among the Owerri Igbo. Bloomington: Indiana University Press. 261 p.

Colldén, Lisa. 1971. The Traditional Religion of the Sakata. Uppsala: Almqvist & Wiksells Boktryckeri. 173 p.

Colldén, Lisa. 1979. Trésors de la Tradition Orale Sakata. Stockholm: Almqvist & Wiksells International. 419 p.

Colle, R.P. 1913. Les Baluba (Congo Belge). Bruxelles: Albert Bewit. 918 p.

Constela Umaña, Adolfo. 1993. Laca Majifijica. La Transformación de la Tierra (Epopeya Guatusa). San José: Editorial de la Universidad de Costa Rica. 208 p.

Conzemius, Eduard. 1927. Die Rama-Indianer von Nicaragua. Zeitschrift für Ethnologie 59: 291-362.

Coombe, Florence. 1911. Islands of Enchantment. Many-sided Melanesia. London: MacMillan & Co. 382 p.

Cooper, John. 1975. The Gros Ventres of Montana. Part 2. Washington D.C.: The Catholic University of America Press. 491 p.

Cordeu, Edgardo J. 1973. Textos míticos de los Angaité (Chenãnesma) y Sanapana. Scripta Ethnologica 1(1): 199-234.

Córdova-Ríos, Manuel, F. Bruce Lamb. 1971. Wizards of the Upper Amazon. New York: Atheneum. 203 p.

Crazzolara, J.P. 1953. Zur Gesellschaft und Religion der Nueer. Wien-Mödling: Verlag und Druck der Missionsdruckerei St. Gabriel. 221 S.

Crooke, William. 1894. An Introduction to the Popular Religion and Folklore of Northern India. Allahabad: Government Press. 420 p.

Cruickshank, Julie. 1992. Life Lived Like a Story. Life stories of three Yukon native elders. Lincoln, London: University of Nebraska Press. 404 p.

Cruz, Wilfredo C. 1946. Oaxaca Recóndita. Razas, Idiomas, Costumbres, Leyendas y Tradiciones del Estado de Oaxaca. México: the author. 353 p.
Curtis, Edward S. 1976. The North American Indian. Vol. 15. New York: Johnston Reprinting Corporation. 225 p.
Cushing, Frank H. 1883. Zuñi fetiches. 2nd Annual Report of the Bureau of Ethnology to the Secretary of the Smithsonian Instituition (1880-1881). P. 3-45.
Cushing, Frank H. 1896. Outlines of Zuñi creation myths. 13th Annual Report of the Bureau of Ethnology to the Secretary of the Smithsonian Instituition (1891-1892). P. 321-447.
Cushing, Frank H. 1923. Origin myths from Oraibi. Journal of American Folklore 36(140): 163-170.
Dähnhardt, Oskar. 1909. Natursagen. Vol.2. Leipzig & Berlin: Teubner. 316 S.
Dähnhardt, Oskar. 1910. Natursagen. Vol.3. Leipzig & Berlin: Teubner. 558 S.
Dang Nghiem Van. 1993. The flood myth and the origin of Ethnic groups in Southeast Asia. Journal of American Folklore 106(421): 304-337.
Das, Tarakchandra. 1945. The Purums. An Old Kuki Tribe of Manipur. Calcutta: University of Calcutta. 336 p.
Deacon, Arthur B. 1934. Malekula: a Vanishing People in the New Hebrides. London: George Routledge & Sons. 789 p.
Deans, James. 1891. A creation myth of the Tsimshians of Northwest British Columbia. Journal of American Folklore 4(2): 34.
Dennett, Richard E. 1898. Notes on the Folklore of the Fjort. London: The Folk-Lore Society. 169 p.
Derbyshire, Desmond. 1965. Textos Hixkariâna. Instituto Nacional de Pesquisas de Amazonia, Museu Paraense Emilio Goeldi, Publicações Avulsas 3. Belem-Para. 206 p.
Dixon, Ronald B. 1902. Maidu myths. Bulletins of the American Museum of Natural History 17(2): 33-118.
Dixon, Ronald B. 1910. Shasta myths. Journal of American Folklore 23(87): 8-37, (88): 364-370.
Dixon, Ronald B. 1912. Maidu Texts. Leyden. American Ethnological Society, Publication 4. 241 p.
Dixon, Ronald B. 1916. Oceanic Mythology. Boston: Marshall Jones Co. 364 p.
Donaldson, Bess Allen. 1938. The Wild Rue. A Study of Muhammadan Magic and Folklore in Iran. London: Luzac & Co. 216 p.
Doroshin, Piotr P. 1866. Iz zapisok vedennyh v Russkoi Amerike [From my memoires kept in Russian America]. Gorny Zhurnal 1(3): 365-400.
Dorsey, George A. 1904a. Traditions of the Arikara. Washington: Carnegie Institution. 202 p.
Dorsey, George A. 1904b. Traditions of the Osage. Chicaho: Field Columbian Museum 60 p.
Dorsey, George A. 1905. Traditions of the Caddo. Washington D.C.: Carnegie Institution. 136 p.
Dorsey, George A. & Alfred L. Kroeber. 1903. Traditions of the Arapaho. Chicago: Field Columbian Museum. 475 p.
Dorsey, James O. 1884. Omaha sociology. 3rd Annual Report of the Bureau of Ethnology to the Secretary of the Smithsonian Instituition (1881-1882). Washington, D.C. P. 211-370.
Dorsey, James O. 1894. A study of Siouan cults. 11th Annual Report of the Bureau of Ethnology to the Secretary of the Smithsonian Institution (1889-1990). Washington D.C. P. 351-544.
Dorsey, James O., & John R. Swanton. 1912. A Dictionary of the Biloxi and Ofo Languages. Washington D.C.: Smithsonian Institution. 340 p.
Dournes, Jacques. 1977. Un amour de serpent. Analyse de contes à travers quatre ethnies indochinoises. Cahiers de Littérature Orale 2: 103-164.
Dowling Desmadryl, Jorge. 1971. Religión, chamanismo y mitología Mapuche. Santiago: Editorial universitaria. 149 p.

Driberg, Jack H. 1923. The Lango. A Nilotic Tribe of Uganda. London: Adelphi Terrace. 468 p.
DuBois, Cora. 1944. The People of Alor. Minneapolis: The University of Minnesota Press. 654 p.
Dyk, Anne. 1959. Mixteco texts. Norman: Summer Institute of Linguistics. 248 p.
Dyrenkova, Nadezhda P. 1929. Ptitsa v kosmogonicheskih predstavleniah turetskih plemen Sibiri [Bird in cosmogonic ideas of Turkish tribes of Siberia]. Kul'tura i Pis'mennost' Vostoka, iss. 4. Baku: Vsesoyuzny tsentral'ny Komitet Novogo Tiurkskogo Alfavita. P. 119-126.
Eberhard, Wolfram. 1968. The Local Cultures of South and East China. Leiden: E.J. Brill. 520 p.
Egli, Hans. 1989. Mirimiringan. Die Mythen und Märchen der Paiwan. Zürich: Verlag Die Waage. 436 S.
Ehrenreich, Paul. 1891. Beiträge zur Völkerkunde Brasiliens. Berlin: Köninglichen Museum für Völkerkunde. 80 S.
Elbert, Samuel H. 1949. Uta-Matua and other tales of Kapingamarangi. Journal of American Folklore 62(245): 240-246.
Elkin, A.P. 1930. The rainbow-serpent myth in North-West Australia. Oceania 1(2): 349-352.
Elmberg, John-Erik. 1968. Balance and Circulation. Aspects of Tradition and Change among the Mejprat of Irian Barat. Stockholm: The Ethnographic Museum. 323 p.
Elwin, Verrier. 1939. The Baiga. London: John Murray. 550 p.
Elwin, Verrier. 1949. Myths of Middle India. Madras: Oxford University Press. 532 p.
Elwin, Verrier. 1950. Bondo Highlander. London: Oxford University Press. 290 p.
Elwin, Verrier. 1954. Tribal Myths of Orissa. Bombay: Oxford University Press. 700 p.
Elwin, Verrier. 1958. Myths of the North-East Frontier of India. Calcutta: North-East Frontier Agency. 448 p.
Endicott, Kirk. 1979. Batek Negrito Religion. Oxford: Clarendon Press. 234 p.
Escobar, Ticio. 2007. The Curse of Nemur. In Search of the Art, Myth, and Ritual of the Ishir. Pittsburgh, PA: University of Pittsburg Press. 303 p.
Etter, Carl. 1949. Ainu Folklore. Traditions and Culture of the Vanishing Aborigines of Japan. Chicago, etc.: Wilcox & Folett. 234 p.
Eugenio, Damiana L. 1994. Philippine Folk Literature. Diliman, Quezon City: University of the Philippine Press. 512 p.
Evans, Ivor H.N. 1913. Folk stories of the Tempassuk and Tuaran Districts, British North Borneo. Journal of the Royal Anthropological Institute of Great Britain and Ireland 45: 422-479.
Evans, Ivor H.N. 1918. Some Sakai beliefs and customs. The Journal of the Royal Anthropological Institute of Great Britain and Ireland 48: 179-197.
Evans, Ivor H.N. 1937. The Negritos of Malaya. Cambridge: Cambridge University Press. 323 p.
Ewers, John C. 1981. Water monsters in Plains Indian art. American Indian Art Magazine 6(4): 38-45.
Farabee, William C. 1922. Indian Tribes of Eastern Peru. Cambridge, Mass.: Peabody Museum of Archaeology and Ethnology. 294 p.
Farrand, Livingston. 1902. Traditions of the Quinault Indians. Memoires of the American Museum of Natural History 4(3): 77-132.
Farrand, Livingston. 1915. Shasta and Athapascan myths from Oregon. Journal of American Folklore 28: 207-242.
Fedorovich, Nadia V. 2009. Ukrainska narodna astronomia [Ukrainian Folk Astronomy]. Abstract of Master's Thesis in History. Kiev: Institut mistetsvoznavstva, folkloristiki ta etnologii. 30 p.
Fewkes, J. Walter. 1923. Ancestor worship of the Hopi Indians. Smithsonian Report for 1921: 485-506.
Fischer, Eberhardt. 1967. Erzählgut der westlichen Dan in Liberia, Teil 1: Mythen, Erzählungen und Sprichwörter. Anthropos 62(5-6): 686-744.

Fischer, H. Th. 1932. Indonesische Paradiesmythen. Zeitschrift für Ethnologie 64(1-3): 204-245.
Fischer, Hans Th. 1963. Watut. Notizen zur Kultur eines Melanesier-Stammes in Nordost-Neuguinea. Braunschweig: Albert Limbach Verlag. 290 S.
Fischer, H. Th. 1968. Negwa. Eine Papua Gruppe im Wandel. München: Klaus Renner Verlag. 493 S.
Flores, Lazaro H. 1989. Mitos, Leyendas y Ritos de los Pech. Tegucigalpa: Producciones Audiovisuales Educativas de Honduras. 108 p.
Foletti Castegnaro, Alessandra. 1985. Tradición Oral de los Quichuas Amazónicos del Aguarico y San Miguel. Quito: Ediciones Abya-Yala. 265 p.
Fortune, Reo F. 1932. Sorcerers of Dobu. The Social Anthropology of the Dobu Islanders of the Western Pacific. London: George Routledge. 318 p.
Foster, George M. 1945. Sierra Popoluca Folklore and Beliefs. Berkeley, Los Angeles: University of California Press. 249 p.
Fox, C.E., & F.H. Drew. 1915. Beliefs and tales of San Cristobal. Journal of the Royal Anthropological Institute of Great Britain and Ireland 45: 131-228.
Frachtenberg, Leo J. 1914. Lower Umpqua Texts and Notes on the Kusan Dialects. New York: Columbia University. 154 p.
Frachtenberg, Leo J. 1920. Alsea texts and myths. Washington: Smithsonian Institution. P. 77-91.
Frazer, James G. 1913. The Belief in Immortality and the Worship of the Dead. Vol. 1. The Belief among the Aborigines of Australia etc. London: Macmillan & Co. 495 p.
Frazer, James G. 1926. The Worship of Nature. London: Macmillan & Co. 672 p.
Frazer, James G. 1939. The Native Races of Australasia. London: Percy Lund Humphries & Co. 390 p.
Frikel, G. Protacio. 1970. Os Kaxúyana. Notas Etno-históricas. Belém: Museu Paraense Emilio Goeldi. 82 p.
Frobenius, Leo. 1931. Erythräa. Länder und Zeiten des heiligen Köningsmordes. Berlin, Zürich: Atlantis-Verlag. 368 S.
Frobenius, Leo. 1983. Mythes et Contes Populaires des Riverains du Kasaï. Wiesbaden: Franz Steiner Verlag. 326 p.
Frobenius, Leo, Douglas C. Fox. 1937. African Genesis. Folk Tales and Myths of Africa. N.Y.: Stackpole Sons. 236 p.
Frolow, Pierre. 1968. L'origine du tabac. Cahiers d'Études Africaines 30: 245-256.
Fulop, Marcos. 1954. Aspectos de la cultura Tucana. Cosmogonía. Revista Colombiana de Antropología 3: 97-137.
Galindo, Francisco A. 1990. Mitos y leyendas de Huancavilca. Centro de Promocion Social Urbano Rural 'Llankay' Antropológica 18(8): 217-225.
Garibay, K. Ángel M. 1965. Teogonía e Historia de los Mexicanos. Tres Opúsculos del Siglo XVI. México: Editorial Porrua. 159 p.
Garvan, John M. 1963. The Negritos of the Philippines. Horn, Wien: Verlag Ferdinand Berger. 288 p.
Gatschet, Albert S. 1890. The Klamath Indians of Southwestern Oregon. Washington D.C.: Government Printing Office. 711 p.
Gatschet, Albert S., Leo J. Frachtenberg, & Melville Jacobs. 1945. Kalapuya Texts. In Kalapuya Texts. University of Washington Publications, Anthropology, Vol. 11. P. 143-369.
Gebhaert-Sayer, Angelika. 1987. Die Spitze des Bewusstseins. Untersuchungen zu Weltbild und Kunst der Shipibo-Conibo. Hohenschläftlarn: Klaus Renner Verlag. 420 S.
Geddes, William R. 1976. Migrants of the Mountains. The Cultural Ecology of the Blue Miao (Hmong Hjua) of Tailand. Oxford: Clarendon Press. 274 p.

Geib, Phil R., Edward A. Jolie. 2008. The role of basketry in Early Holocene small seed exploitation: implications of a ca. 9,000 year-old basket from Cowboy Cave, Utah. American Antiquity 73 (1): 83-102.

Gifford, Edward W. 1932. The Southeastern Yawapai. University of California Publications in American Archaeology and Ethnology 29(3): 177-252.

Gifford, Edward W. 1933. Northeastern and Western Yavapai myths. Journal of American Folklore 46(182): 347-415.

Gifford, Edward W. 1937. Coast Yuki myths. Journal of American Folklore 50(196): 115-172.

Gilhodes, P.Ch. 1908. Mythologie et religion des Katchins (Birmanie). Anthropos 3(4): 672-699.

Gillin, John. 1936. The Barama River Caribs of British Guiana. Cambridge, Mass. Peabody Museum of Archaeology and Ethnology, Harvard University. 288 p.

Gilmore, Melvin R. 1926. Arikara genesis and its teachings. Indian Notes 3(3): 188-193.

Girard, Rafael. 1958. Indios Selváticos de la Amazonía Peruana. México: Libro México Editores. 356 p.

Goddard, Pliny E. 1911. Jicarilla Apache Texts. New York: American Museum of Natural History. 276 p.

Goddard, Pliny E. 1918. Myths and tales from the San Carlos Apache. Anthropological Papers of the American Museum of Natural History 24(1): 3-86.

Goddard, Pliny E. 1919. Myths and tales from the White Mountain Apache. Anthropological Papers of the American Museum of Natural History 24(2): 87-139.

Goddard, Pliny E. 1933. Navajo Texts. New York: American Museum of Natural History. 179 p.

Goeje, Claudius H. de. 1943. Philosophy, Initiation and Myths of the Indians of Guiana and Adjacent Countries. Leiden: Internationales Archiv für Ethnographie. 136 p.

Goldman, Irving. 1940. Cosmological beliefs of the Cubeo Indians. Journal of American Folklore 53: 242-244.

Gomes, Edwin H. 1911. Seventeen Years among the Sea Dyaks of Borneo. London: Seeley & Co. 343 p.

Gottschling, Rev. E. 1905. The Bawenda: a sketch of their history and culture. The Journal of the Royal Anthropological Institute of Great Britain and Ireland 35: 376-386.

Grabowsky, F. 1892. Die Theogonie der Dajaken auf Borneo. Internationales Archiv für Ethnologie 5(3): 116-133.

Greenberg, Joseph. 1946. The Influence of Islam on a Sudanese Religion. New York: J.J. Augustin Publisher. 73 p.

Greenlee, Robert F. 1945. Folktales of the Florida Seminole. Journal of American Folklore 58(228): 138-144.

Grenand, Françoise. 1982. Et l'Homme Devint Jaguar. L'Univers Imaginaire et Quotidien des Indiens Wayãpi de Guyane. Paris: L'Harmattan. 302 p.

Griaule, Marcel. 1938. Masques Dogons. Paris: Institut d'Ethnologie. 896 p.

Grinnell, George B. 1893. Pawnee mythology. Journal of American Folklore 6(21): 113-130.

Grinnell, George B. 1907. Some early Cheyenne tales. Journal of American Folklore 20(77-78): 169-194.

Grinnell, George B. 1908. Some early Cheyenne tales. Journal of American Folklore 21(82): 270-320.

Grottanelli, Vinigi L. 1967. Nzema high gods. Paiduema 13: 32-42.

Grottanelli, Vinigi L. 1989. On the origin of things. Some Nzema versions (Ghana). Paideuma 35: 83-92.

Grubb, W. Barbrooke. 1911. An Unknown People in an Unknown Land. London: Seeley, Service & Co. 330 p.

Grünberg, G. 1970. Beiträge zur Ethnographie der Kayabi Zentralbraziliens. Archiv für Völkerkunde 24: 21-186.
Guallart, José M. 1958. Mitos y leyendas de los Aguarunas del Alto Marañon. Perú Indígena 7(16-17): 59-98.
Guiteras-Holmes, Calixta. 1961. Perils of the Soul. The World View of a Tzotzil Indian. Chicago: University of Chicago Press. 371 p.
Gunn, William. 1914. The Gospel in Futuna. London, New York, Toronto: Hodder & Stoughton. 308 p.
Gura, Aleksander. 1997. Simvolika zhivotnyh v slavianskoi narodnoi traditsii [Animal Symbolism in Slavic Folk Tradition]. Moscow: Indrik. 910 p.
Haas, Mary R. 1950. Tunica Texts. Berkeley & Los AngelesL University of California 173 p.
Hagar, Stansbury. 1906. Cherokee star-lore. Boas Anniversary Volume. New York: G.E. Stechert & Co. P. 354-366.
Halkin, Joseph. 1911. Les Ababua (Congo Belge). Bruxelles: Albert de Wit. 616 p.
Harner, W. E., & A.P. Elkin. 1943. Mellville and Bathurst Islands: a short decription. Oceania 13(3): 229-234.
Hatt, Gudmund. 1949. Asiatic Influences in American Folklore. København: Ejnar Munksgaard. 122 p.
Hawtrey, Seymour H. C. 1901. The Lengua Indians of the Paraguayan Chaco. Journal of the Anthropological Institute of Great Britain and Ireland 31: 280-299.
Heider, Karl G. 1970. The Dugum Dani. A Papuan Culture in the Highland of West New Guinea. New York: Wenner-Gren Foundation for Anthropological Research. 334 p.
Heinz, Hanz-Joachim. 1975. Elements of the Bushmen religious beliefs. Anthropos 70(1-2): 17-41.
Herskovits, Melville J. 1938. Dahomey. An Ancient West African Kingdom. Vol. 2. New York: J.J. Augustin. 207 p.
Hervey, D.F.A. 1883. The Mĕntra traditions. Journal of the Straits Branch of the Royal Asiatic Society (Singapore) 10: 189-194.
Hicks, David. 2007. Younger brother and fishing hook on Timor: reassessing Mauss on hierarchy and divinity. Journal of the Royal Anthropological Institute 13(1): 39-56.
Hildebrand, Martín von. 1975. Orígen del mundo según los Ufaina. Revista Colombiana de Antropología 18: 325-382.
Hill, Jonathan D., & Emilio F. Moran. 1983. Adaptive strategies of Wakuénai people to the oligotrophic rain forest of the Rio Negro basin. Adaptive Responces of Native Amazonians. New York et al.: Academic Press. P. 113-135.
Himmelheber, Hans. 1951. Aura Poku. Mythen, Tiergeschichten und Sagen, Sprichwörter, Fabeln und Rätzel. Eisenach: Erich Röth-Verlag. 181 S.
Himmelheber, Hans, & Ulrike Himmelheber. 1958. Die Dan. Ein Bauernvolk im westafrikanischen Urwald. Stuttgart: W. Kohlhammer Verlag. 249 S.
Hirschberg, Walter. 1929. Die Plejaden in Africa und ihre Beziehung zum Bodenbau. Zeitschrift für Ethnologie 61(4-6): 321-337.
Hissink, Karin, & Albert Hahn. 1961. Die Tacana. Erzälungsgut. Stuttgart: Kohlhammer. 692 S.
Ho, Ting-jui. 1967. A Comparative Study of Myths and Legends of Formosan Aborigines. Taipei: The Orient Cultural Center. 389 p.
Hodge, Gene Meany. 1993. Kachina Tales from the Indian Pueblos. Coll. by Gene Meany Hodge. Santa Fe: Sunstone Press. 64 p.
Hofmayr, Wilhelm. 1925. Die Shilluk. Mödling bei Wien: Verlag des Administration des Anthropos. 521 S.
Hogbin, H. Ian. 1937. The hill people of north-eastern Guadalcanal. Oceania 8(1): 62-89.

Holas, Bohumil. 1975. Contes Kono. Traditions populaires de la forêt guinéenne. Paris: Éditions G.-P. Maisonneuve et Latose. 342 p.
Holland, Madeleine. 1916. Folklore of the Banyanja. Folk-Lore 27(2): 116-170.
Hollenbach, Barbara K. 1980. El mundo animal en el folklore de los triques de Copala. Tlalocán 8: 437-490.
Hollis, A.C. 1905. The Masai. Their Language and Folklore. Oxford: Clarendon Press. 356 p.
Hollis, A.C. 1909. The Nandi. Their Language and Folklore. Oxford: Clarendon Press. 328 p.
Holmberg, Uno. 1927. The Mythology of All Races. Vol. 4. Finno-Ugric, Siberian. Boston: Archaeological Institute of America, Marshall Jones Co. 585 p.
Hose, Charles, & William McDougall. 1912. The Pagan Tribes of Borneo. Vol. 2. London: MacMillan & Co. 341 p.
Houwald, Götz von, & Francisco Rener. 1984. Mayangna Yulnina Kulna Balna. Tradiciones Orales de los Indios Sumus. Bonn: Bonner Amerkanistischen Studien. 213 p.
Howitt, A.W. 1904. Native Tribes of South-East Australia. London: Macmillan & Co. 819 p.
Huber, Hugo. 1967. Die unheilbringende Schwiegertochter. Ätiologische Motive im Mythengut der Kwaya (Ostafrika). Anthropos 62(5-6): 789-801.
Hugh-Jones, Stephen. 1979. The Palm and the Pleiades: Initiation and Cosmology in North-West Amazonia. Cambridge et al.: Cambridge University Press. 332 p.
Humphrey, Clarence B. 1926. The Southern New Hebrides; an ethnological record. Cambridge: Cambridge University Press. 214 p.
Huxley, Francis. 1956. Affable Savages. An Anthropologist among the Urubu Indians of Brazil. London: Hart-Davis. 285 p.
Ichon, Alain. 1969. La Religion des Totonaques de la Sierra. Paris: Centre National de la Recherche Scientifique. 424 p.
Ikeda, Hiroko. 1971. A Type and Motif Index of Japanese Folk-Literature. Helsinki: Suomalainen Tiedeakatemia. FF Communications 209. 375 p.
Iliev, Boris. 2001. B'lgarski legendy [Bulgarian Legends]. Sofia: Paradox. 220 p.
Im Thurn, Everard F. 1966. Among the Indians of Guiana. New York: Dover Publications. 445 p.
Incháustegui, Carlos. 1977. Relatos del Mundo Mágico Mazateco. México: Instituto Nacional de Antropología e Historia. 222 p.
Ishida, Eiichīro. 1998. Mat' Momotaro [Mother of Momotaro]. Trans. from Japanese. Saint-Petersburg: Peterburgskoe Vostokovedenie. 218 p.
Isacsson, Sven-Erik. 1993. Transformations of Eternity. On Man and Cosmos in Emberá Thought. Göteborg: University of Göteborg. 416 p.
Jacobs, Elisabeth D. 2007. Pitch Woman and Other Stories. The Oral Traditions of Coquelle Thompson, Upper Coquille Athabaskan Indian. Lincoln, London: University of Nebraska Press. 309 p.
Jacobs, Melville. 1940. Coos myth texts. University of Washington Publications in Anthropology 8(2): 127-260.
Jacobs, Melville. 1945. Santiam Kalapuya myth texts. In Kalapuya Texts. University of Washington Publications in Anthropology 11: 83-142.
Jacobson-Widding, Anita. 1991. The encounter in the water mirror. Uppsala Studies in Cultural Anthropology 16: 177-216.
Jankovič, Nenad. 1951. Astronomiya i predan'ima, obichaima i umotvorima srba [Astronomy, Legends, Customs and Creative Work of the Serbs]. Beograd: Srpska Akademija Nauka. 206 p.
Janssens, P.A. 1926. Het ontstaan der dingen in de Folklore der Bantu's. Anthropos 21(3-4): 546-565.

Jenness, Diamond. 1934. Myths of the Carrier Indians of British Columbia. Journal of American Folklore 47(184-185): 97-257.
Jenness, Diamond, & A. Ballantyne. 1920. The Northern d'Entrecasteaux. Oxford: Clarendon Press. 220 p.
Jensen, Adolf Erik von. 1936. Im Lande des Gada. Wanderungen zwischen Volkstrümmern Südabessiniens. Stuttgart: Strecher und Schröder. 608 S.
Johly, Hasteen de, & Están H. B'yásh. 1958. Red Ant Myth (Willa-Chee) and Shooting Chant. Santa Fe: Museum of Navajo Ceremonial Art. 23 p.
Johns, Andreas. 2005. Slavic Creation Narratives: The Sacred and the Comic. Fabula 46(3-4): 257-291.
Josselin de Jong, Jan P.B. de. 1914. Blackfoot Texts from the Southern Piegans Blackfoot Reservation Teton County, Montana. Amsterdam: Johannes Müller. 154 p.
Judson, Katharine B. 1994. Myths and Legends of California and the Old Southwest. Lincoln, London: University of Nebraska Press. 193 p.
Jungraithmayr, Herrmann. 2002. Síndi. Tangale Folktales. Köln: Rüdiger Köppe Verlag. 455 p.
Junod, Henri-Alexandre. 1927. The Life of a South African Tribe. Vol. 2. Mental Life. London: Macmillan & Co. 660 p.
Junod, Henri-Alexandre. s.a.. Cantos e Contos dos Rongas. [Lourenço Marques]: Instituto de Investigação Cientifica de Moçambique. 187 p.
Kaberry, Phyllus M. 1935. The Forest River and Lyne River tribes. Oceania 5(4): 408-436.
Kapchits, Georgi L. 1997. Somaliiskie narodnye skazki [Somali Folk-tales]. Moscow: Vostochnaya literatura. 159 p.
Karsten, Rafael. 1935. The Head-Hunters of Western Amazonas. Helsingfors: Societas Scientiarum Fennica. 598 p.
Kaspruś, Aloys. 1973. The Tribes of the Middle Ramu and the Upper Keram Rivers (North-East New Guinea). St. Agustin bei Bonn: Verlag des Anthropos-Instituts. 191 S.
Kästner, Klaus-Peter. 1992. Historish-ethnographische Klassifikation der Stämme des Ucayali-Beckens (Ost-Peru). Frankfurt a.M.: IKO-Verlaf für Interkulturelle Kommunikation. 501 S.
Katsnelson, I. 1968. Skazki narodov Sudana [Folk-Tales of the Peoples of Sudan]. Moscow: Khudozhestvennaia literatura. 344 p.
Kayser, Manfred. 2010. The Human Genetic History of Oceania. Current Biology 20, R194–R201.
Kelm, Heinz. 1972. Chácobo 1970. Tribus 21: 129-246.
Kerbelyte, Bronislava. 2001. The Types of Folk Legends. The Structural-semantic Classification of Lithuanian Aetiological, Mythological and Historical Legends. Saint-Petersburg: Evropeiskiy Dom. 607 p.
Kimmendade, Martin van de. 1936. Les Sandawe (Territoire du Tanganyika, Afrique). Anthropos 31(3-4): 395-416.
Knappert, Jan. 1977. Myths and Legends of Indonesia. Singapore, Kuala Lumpur, Hong Kong: Heinemann Educational Books. 198 p.
Koch-Grünberg, Theodor. 1921. Indianermärchen aus Südamerika. Iena: Diederichs. 344 S.
Koch-Grünberg, Theodor. 1923. Ethnographie. Stuttgart: D. Reimer. 466 S.
Koch-Grünberg, Theodor. 1924. Mythen und Legenden der Taulipang und Arekuna Indianer. Stuttgart: D. Reimer. 313 S.
Koekemoer, Gerhardus P. 2007. Lightning Design in an African Content. Submitted in partial fulfillment of the requirements of for the degree of Magister technologiae: performing arts technology. Department of Entertainment Technology, Faculty of the Arts, Tshwane University of Technology. Pretoria a.o.: Tshwane University of Technology. 202 p.

Koelewijn, Cees, & Peter Rivière. 1987. Oral Literature of the Trio Indians of Surinam. Dordrecht and Providence: Foris Publications. 312 p.

Kohl-Larsen, Ludwig, & A.B. Allenbach. 1937. Issansu-Märchen. Baessler-Archiv 20(1-2): 1-71.

Kojiki. 1994. Kojiki. Zapiski o delah drevnosti. Svitok Pervy. Mify [The Kojiki, or Record of Ancient Matters. Scroll One. The Myths]. Tran. from Japanese. St. Petersburg: Shar. 313 p.

Koropchevski, Dmitri A. 1874. Basni i skazki dikih narodov [Fables and Folk-Tales of Savage People]. Trans. from English. Saint-Petersburg: Tipografia V. Demakova. 104 p.

Kotlyar, Elena S. 1983. Mify i skazki bushmenov [Myths and Tales of the Bushmen]. Moscow: Nauka. 318 p.

Kotlyar, Elena S. 2009. Ukazatel afrikanskih mifologicheskih siuzhetov i motivov [Index of African Tale-types and Motifs]. Moscow: Vostochnaia literatura. 299 p.

Kracke, Waud M. 1992. He who dreams. The nocturnal source of transformations power in Kawahiv shamanism. E. Jean Matteson Langdon & Gerhard Baer, eds. Portals of Power. Shamanism in South America. Albuquerque: University of New Mexico Press. P. 127-148.

Krämer, Augustin. 1937. Zentralkarolinen. I. Halbband. Hamburg: Friederichsen, De Gruyter & Co. 413 S.

Kroeber, Alfred L. 1900. Cheyenne tales. Journal of American Folklore 13(50): 161-190.

Kroeber, Alfred L. 1906. Wishosk myths. Journal of American Folklore 19(69): 85-107.

Kroeber, Alfred L. 1907. Indian myths of South Central California. University of California Publications in American Archaeology and Ethnology 4(4): 167-250.

Kroeber, Alfred L. 1908. Catch-words in American mythology. Journal of American Folklore 21(81-82): 222-227.

Kroeber, Alfred L. 1919. Sinkyone tales. Journal of American Folklore 32(124): 346-351.

Kroeber, Alfred L. 1931. The Seri. Highland Park, Los Angeles: Southwestern Museum. 60 p.

Kroeber, Alfred L. 1932. The Patwin and their neighbors. University of California Publications in American Archaeology and Ethnology 29(4): 253-423.

Kroeber, Alfred L., Edward Winslow Gifford. 1949. World renewal. A cult system of Native Northern California. University of California Anthropological Records 13(1): 1-154.

Kronenberg, Andreas. 1972. Logik und Leben. Kulturelle Relevanz der Didinga und Longarim, Sudan. Wisebaden: Franz Steiner Verlag. 191 S.

Kruse, A. 1952. Karusakaybë, der Vater der Mundurukú. Anthropos 46(5-6): 915-932, 47(5-6): 992-1018.

Kruse, A. 1955. Pura, das höchste Wesen der Arikéna. Anthropos 50(1-3): 404-416.

Kruyt (Kruijt), Albertus C. 1938. De West-Toradjas op Midden-Celebes. Deel II. Amsterdam: N.V. Noord-Hollandsche Uitgevers Maatschappij. 630 p.

Kudinova, M.V., & A.M. Kudinov. 1995. Kogda ulabaetsia udacha: Indiiskis skazki, legendy i narodnye rasskazy [When your Luck Smiles: Indian Folktales and Legends]. Trans. from Folk Tales of India. Sterling Publishers, 1969-1974). Moscow: Vostochnaya Literatura. 320 p.

Kühn, Alfred. 1936. Sonne und Mond in der Mythen der Indochinesen. Artibus Asiae 6(1-2): 73-90.

Kurilov, G.N. 2005. Fol'klor yukagirov [The Yukaghir Folklore]. Moscow, Novosibirsk: Nauka. 593 p.

Kuusi, Matti. 1969. The woodpecker that helped people out of the tree. Temenos, Studies in Comparative Religion 4: 67-75.

Kuzmin, Yaroslav V., & S. G. Keates. 2005. Siberia at the Last Glacial Maximum: continuity or discontinuity of human populations? Severnaia Patsifika – kul'turnye adaptatsii v kontse pleistotsena i golocena [Northern Pacific: Cultural Adaptations in the End of the Pleistocene and Holocene]. Magadan: Severny Mezhdunarodny Universitet. P. 84-87.

Kuznetsova, Vera S. 1998. Dualisticheskie legendy o sotvorenii mira v vostochnoslavianskoi fol'klornoi traditsii [Dualistic Legends about the World Creation in the East Slavic Folklore Tradition]. Novosibirsk: Izdatel'stvo SO RAN. 98 p.

Landes, Antony C. 1886. Contes et Légendes Annamites. Saigon: Imprimerie Coloniale. 392 p.

Landes, Antony C. 1886. 1987. Contes Tjames. Saigon: Imprimerie Coloniale. 117 p.

Landtman, Gunnar. 1927. The Kiwai Papuans of British New Guinea. London: MacMillan & Co. 485 p.

Lebite, A. 1965. Koroleva Lebed'. Litovskie narodnye skazki [Queen Swan. Lithuanian Folktales]. Vilnius: Vaga. 416 p.

Leenhardt, Maurice. 1932. Documents Néo-Calédoniens. Paris: Institut d'Ethnologie. 514 p.

Lehmann-Nitsche, Robert. 1925. La astronomía de los Vilelas. Revista del Museo de La Plata 28: 210-233.

Lehner, Stephan. 1931. Die Naturanschauung der Eingebornen im N.O. New-Guineas. Baessler-Archiv 14(4): 105-122.

Lembezat, Bertrand. 1950. Kirdi, les Populations Païennes du Nord-Cameroun. Paris. Memoires de "Institut Frabçais d'Afrique Noire (Centre du Cameroun). 101 p.

Lembezat, Bertrand. 1961. Les Populations Païennes du Nord-Cameroun et de 'Adamaoua. Paris: Presses Universitaires de France. 252 p.

Leonel Queiroz, Ana, Ivete Lara Camargos Wakty, & Leda Lima Leonel. 1988. Mantere Ma Kwé Tĩnhin. Historia de Maloca Antigamente. Pichuvy Cinta Larga. Belo Horizonte: Segrac-Cimi. 132 p.

LeRoy, John. 1985. Kewa Tales. Edited by John LeRoy. Vancouver: University of British Columbia Press. 251 p.

Lewis, Bazett A. 1972. The Murle. Red Chiefs and Black Commoners. Oxford: at the Clarendon Press. 166 p.

Lienhardt, Godfrey. 1961. Divinity and Experience. The Religion of the Dinka. Oxford: Clarendon Press. 328 p.

Limerov, Pavel F. 2005. Mu puks'om – Sotvorenie mira [Mu puks'om – Creation of the World]. Syktyvkar: Komi knizhnoe Izdatel'stvo. 524 p.

Lindblom, Gerhard. 1920. The Akamba in British East Africa. Uppsala: Appelbergs Boktryckeri Aktiebolag. 607 p.

Lindell, Kristina, Jan-Öjvind Swahn, & Damrong Tayanin. 1978. Folk Tales from Kammu. II. London, Malmö: Curzon Press. 185 p.

Ling Ling, & P. Ustin. 1959. Glaza drakona. Legendy i skazki narodov Kitaya [The Dragon's Eyes. Legends and Folk-Tales of the Peoples of China]. Trans. from Chinese. Moscow: Izdatel'stvo inostrannoi literatury. 428 p.

Lipkind, William. 1940. Caraja cosmography. Journal of American Folklore 53(210): 248-251.

Loewen, Jacob A. 1969. Los Lengua y su mundo espiritual. Suplemento Antropológico de la Revista del Ateneo Paraguayano 4(1): 115-133.

Loewenstein, John. 1961. Rainbow and serpent. Anthropos 56(1-2): 31-40.

Løvold, Lars. 1987. First he locked them in: a creation myth of the Gavião and the Zoro Indians of Brazil. Etnografiska Studier 38: 417-442.

Lukina, Nadezhda V. 1990. Mify, predania, skazki khantov i mansi [Myths, Legends, Tales of the Khanty and Mansi]. Moscow: Nauka. 568 p.

Lumholtz, Carl. 1902. The Unknown Mexico. Vol. 1. New York: Charles Scribner's Sons. 530 p.

Luomala, Katharine. 1940. Oceanic, American Indian, and African Myths of Snaring the Sun. Honolulu: Bernice P. Bishop Museum. Bulletin 168. 58 p.

Luomala, Katharine. 1964. Motif A728: Sun caught in snare and certain related motifs. Fabula 6(3): 213-252.
Macdonald, Charles. 1981. La séparation des hommes et des démons. Cahiers de Littérature Orale 6: 100-137.
MacDonald, John. 1998. The Arctic Sky: Inuit Astronomy, Star Lore, and Legend. Toronto: Royal Ontario Museum, Nunavut Research Institute. 313 p.
Magaña, Edmundo. 1987. Contribuciones al Estudio de la Mitología y Astronomía de los Índios de las Guayanas. Amsterdam: Centre for Latin American Research and Documentation. 306 p.
Magaña, Edmundo, & Fabiola Jara. 1982. The Carib sky. Journal de la Société des Américanistes 68: 105-132.
Mahieu, Wauthier de. 1975. Cosmologie et structuration de l'espace chez les Komo. Africa 45(3): 236-257.
Maingard, L.F. 1962. Korana Folktales. Johannesburg: Witwatersrand University Press. 81 p.
Majumder, Oartha P. 2010. The Human Genetic History of South Asia. Current Biology 20, R184–R187.
Maksiutova, N.Kh. 1973. Bashkirskaia kosmonimia [Bashkir cosmonymy]. Onomastika Povolzhia. Ufa: Nashkirski gosudarstvenny universitet. P. 382-384.
Maldi, Denise. 1991. O complexo cultural do Marico: sociedades indígenas dos Ríos Branco, Colorado e Mequens, afluentes do Médio Guaporé. Boletim do Museu Paraense Emílio Goeldi, Antropologia 7(2): 209-269.
Malinowski, Bronislaw. 1926. Myth in Primitive Psychology. London: Kegan Paul, Trench, Trubner & Co. 128 p.
Malinowski, Bronislaw. 1932. The Sexual Life of Savages in Northwestern Melanesia. London: G. Routledge. 506 p.
Malinowski, Bronislaw. 1948. Magic, Science and Religion and Other Essays. Boston: Beacon Press, Glencoe, Ill.: The Free Press. 327 p.
Marinov, Dimitr. 2003. Narodna Viara (Folk Faith). Sofia: Iztok-Zapad. 422 p.
Marriott, Alice, & Carol K. Rachlin. 1968. American Indian Mythology. New York: Thomas T. Crowell. 211 p.
Martin, Howard N. 1977. Myths and Folktales of the Alabama-Coushatta Indians of Texas. Austin: The Encino Press. 114 p.
Matsumoto, Nobuhiro. 1928. Essai sur la mythologie japonaise. Paris. 145 p.
Mattei Muller, Marie-Claude. 1994. Diccionario Ilustrado Panare-Español, índice Español-Panare. Caracas: Comisión Nacional Quinto Centenario. 417 p.
Maybury-Lewis, David. 1971. Akwê-Shavante Society. Oxford: Clarendon Press. 356 p.
McAllister, J. Gilbert. 1949. Kiowa-Apache tales. The Sky Is My Tipi, Mody C. Boatright, ed. Austin, Dallas. Texas Folklore Society. P. 1-141.
McClelland, Catharine. 1987. Part of the Land, Part of the Water. A History of the Yukon Indians. Vancouver; Toronto: Douglas & McIntyre. 328 p.
McClelland, Catharine. 2007. My Old People's Stories: A Legacy for Yukon First Nations. Parts 1-3. Whitehorse, Yukon: Government of Yukon. 804 p.
McCormick Collins, June. 1974. Valley of the Spirits. The Upper Skagit Indians of Western Washington. Seattle, London: University of Washington Press. 267 p.
McKennan, Robert A. 1959. The Upper Tanana Indians. New Haven: Yale University, Department of Anthropology. 226 p.
Mead, Margaret. 1940. The Mountain Arapesh. II. Supernaturalism. Anthropological Papers of the American Museum of Natural History 37(3): 319-451.

Meek, C.K. 1931. A Sudanese Kingdom. An Ethnographical Study of the Jukun-speaking Peoples of Nigeria. London: Kegan Paul, Trench, Trubner & Co. 548 p.

Meier, P. Josef. 1908. Mythen und Sagen der Admiralitätinsulaner. Anthropos 3(2): 193-206, 3(4): 651-671.

Meier, P. Josef. 1909. Mythen und Erzählungen der Küstenbewohner der Gazelle-Halbinsel (Neu-Pommern). Münster: Aschendorffschen Buchhandlush. 291 S.

Mellars P. 2007. Why did modern human populations disperse from Africa ca. 60,000 years ago? A new model. Proceedings of the National Academy of Sciences of the USA. 2006. Vol. 103. P. 9381-9386.

Mercier, H. Juan M. 1979. Nosotros los Napu-Runas: Napu Runapa Rimay, Mitos e Historia. Iquitos: Publicaciones CETA. 372 p.

Merrill, William L. 2002. Species transformations in Northern Mexico: explorations in Rarámuri zoology. In William L. Merrill & Ives Goddard, eds. Anthropology, History, and American Indians: Essays in Honor of William Curtis Sturtevant. Washington D.C.: Smithsonian Institution. P. 333-347.

Mesquitela Lima, A. 1968. Les hommes (conte ngangela). Cahiers d'Études Africaines 30: 257-269.

Metraux, Alfred. 1946. Ethnography of the Chaco. Handbook of South American Indians. Vol.1. Washington D.C.: Smithsonian Institution. P. 197-370.

Metraux, Alfred. 1948a. Tribes of Eastern Bolivia and the Madeira Headwaters. Handbook of South American Indians, Vol.3. Washington D.C.: Smithsonian Institution, P. 381-454.

Metraux, Alfred. 1948b. Tribes of the Middle and Upper Amazon River. Handbook of South American Indians, Vol.3. Washington D.C.L Smithsonian Institution. P. 687-712.

Metraux, Alfred, & Herbert Baldus. 1946. The Guayakí. Handbook of South American Indians. Vol.1. Washington D.C.: Smithsonian Institution. P. 435-444.

Metspalu M. 2005. Through the Course of Prehistory in India: Tracing the mtDNA Trail. Tartu. 138 p.

Milbrath, Susan. 1999. Star Gods of the Maya. Austin: University of Texas Press. 348 p.

Millman, Lawrence. 2004. A Kayak Full of Ghosts. Eskimo Folk Tales. Northampton, MA: Interlink Publiushing Group. 208 p.

Millroth, Berta. 1965. Lyuba. Tradional Religion of the Sukuma. Uppsala: University of Uppsala. 217 p.

Mindlin, Betty. 1995. Unwritten Stories of the Suruí Indians of Rondonia. Austin: University of Texas at Austin. 150 p.

Molina, Cristóbal de. 1916. Relación de las Fábulas y Ritos de los Incas. Lima: Sanmarti. 215 p.

Monaghan, John. 1995. The Covenants with Earth and Rain. Exchange, Sacrifice, and Revelation in Mixtec Sociality. Norman & London: University of Oklahoma Press. 394 p.

Monod Becquelin, Aurore. 1975. La Pratique Linguistique des Indiens Trumai (Haut Xingu, Mato Grosso, Brésil). Paris: Langues et Civilisations à Tradition Orale. 220 p.

Mooney, James. 1896. The Ghost-dance Religion, and the Sioux Outbreak of 1890. 14th Annual Report of the Bureau of American Ethnology to the Secretary of the Smithsonian Institution (1892-1893), part 2. P. 653-1110.

Mooney, James. 1898a. The Jicarilla Genesis. American Anthropologist 11: 197-209.

Mooney, James. 1898b. Calendar history of the Kiowa Indians. 17th Annual Report of the Bureau of Ethnology to the Secretary of the Smithsonian Institution (1895-1896). P. 141-445.

Mooney, James. 1900. Myths of the Cherokee. Washington D.C.: Smithsonian Institution. 576 p.

Moshinskaia, Vanda I., & Nadezhda V. Lukina. 1982. O nekotoryh osobennostiah v otnoshenii k sobake u obskih ugrov [On some features related to attitude to dogs among the Ob'

Ugrians]. Arkheologia i Etnografia Priob'ia, N.V. Lukina (ed.). Tomsk: Izdatel'stvo Tomskogo universiteta. P. 46-60.
Moss, Rosalind. 1925. The Life after Death in Oceania and the Malay Archipelago. Oxford: Oxford University Press. 247 p.
Mould, Tom. 2004. Choctaw Tales. Jackson: University Press of Mississippi. 290 p.
Mountford, Charles P. 1958. The Tiwi, their Art, Myth and Ceremony. London: Phoenix Houe. 185 p.
Munkácsi, Bernhard. 1908. Die Weltgottheiten der Wogulischen Mythologie. Revue orientale pour les études ouralo-altaïques 9(3): 206-277.
Münzel, Mark. 1973. Erzählungen der Kamayura. Alto Xingú - Brasilien. Wiesbaden: Steiner. 378 S.
Murphy, Robert F. 1958. Mundurucú Religion. Berkeley: University of California Press. 154 p.
Nachtigall, Horst. 1955. Tierradentro. Archäologie und Ethnolographie einer Kolumbianischen Landschaft. Zürich: Origo. 318 S.
Nadrshina, Fanuza. 1985. Bashkirskie predania i legendy [Bashkir Traditions and Legends]. Ufa: Bashkirskoe knizhnoe izdatelstvo. 288 p.
Nassau, R.H. 1915. Batanga tales. Journal of American Folklore 28(107): 24-51.
Nelson, Richard H. 1983. Make Prayers to the Raven. A Koyukon View of the Northern Forest. Chicago & London: the University of Chicago Press. 292 p.
Nevermann, Hans. 1934. Admiralitäts-Inseln. Hamburg: Friederichsen, DeGruyter & Co. 399 S.
Nevermann, Hans. 1942. Die Je-Nan. Baessler-Archiv 24(3-4): 87-221.
Nevski, Nikolai A. 1934. Predstavlenie o raduge kak o nebesnoi zmee [Ideas of a rainbow as a sky snake]. Sergei F. Oldenburg Festschrift Leningrad.: Izdatel'stvo Akademii nauk. P. 367-376.
Nevski, Nikolai A. 1978. Fol'klor ostrovov Miyako [Folklore of Miyako Islands]. Moscow: Nauka. 192 p.
Nevski, Nikolai A. 1996. Luna i bessmertie [The Moon and immortality]. Peterburgskoe Vostokovedenie 8: 265-301.
Newcomb, Franc J. 1940. Origin legend of the Navajo Eagle Chant. Journal of American Folklore 53(207): 50-77.
Newcomb, William W. Jr. & Thomas N. Campbell. 2001. Tonkawa. Handbook of North American Indians, vol. 13(2), Plains. Washington: Smithsonian Institution. P. 953-964.
Nikiforov, Nikolai Ya. 1915. Anosski sbornik. Sobranie skazok altaitsev [The Anos Collection of Altai Folktales]. Omsk: Zapadno-Sibirski Otdel Imperatorskogo Russkogo Geograficheskogo Obschestva. 293 p.
Nilsson, Martin P. 1920. Primitive Time-reckoning. Lund: Lund University. 384 p.
Nimuendaju, Curt. 1920. Bruchstücke aus Religion und Ueberlieferungen der Šipáia-Indianer. Anthropos 14-15 (1919-1920): 1002-1099.
Nimuendaju, Curt. 1922. Bruckstücke aus Religion und Ueberlieferungen der Sipáia-Indianer. Anthropos 16-17(1-3) (1921-1922): 367-406.
Nimuendaju, Curt. 1946a. The Eastern Timbira. Trans. by Robert H. Lowie. Berkeley, Los Angeles: University of California Press. 367 p.
Nimuendaju, Curt. 1946b. Social organization and beliefs of the Botocudo of Eastern Brazil. Trans. by Robert H. Southwestern Journal of Anthropology 2(1): 93-115.
Nimuendaju, Curt. 1952. The Tukuna. Berkeley: University of California Press. 219 p.
Norbeck, Edward. 1950. Folklore of the Atayal of Formosa and the Mountain Tribes of Luzon. Ann Arbor: University of Michigan. 44 p.
Nordenskiöld, Erland. 1912. Indianerleben. El Gran Chaco (Südamerika). Leipzig: Bonnier. 351 S.

Nordenskiöld, Erland. 1924. Forschungen und Abenteuer in Südamerika. Stuttgart: Strecker und Schröder. 338 S.

Oberg, Kalervo. 1949. The Terena and the Caduveo of Southern Mato Grosso, Brazil. Washington D.C: Smithsonian Institution. 72 p.

Oberg, Kalervo. 1953. Indian Tribes of Northern Mato Grosso, Brazil. Washington D.C: Smithsonian Institution. 136 p.

O'Bryan, Aileen. 1956. The Dîné: Origin Myths of the Navaho Indians. Washington D.C.: Smithsonian Institution. 187 p.

Okhotina, N.V. 1962. Skazanie o Liongo Fumo. Skazki narodov Afriki [Legend about Liongo Fumo. Folk-Tales of Peoples of Africa]. Moscow: Vostochniaya literatura. 395 p.

Olderogge, Dmitri A. 1959. Skazki narodov Afriki [Folk-Tales of the Peoples of Africa]. Moscow, Leningrad: Gosudarstvennoe Izdatel'stvo khudozhestvennoi literatury. 320 p.

Olmos Aguilera, Miguel. 2005. El viejo, el venado y el coyote. Estética y cosmología. Tijuana, B.C.: El Colegio de la Frontera Norte. 332 p.

Opler, Morris E. 1938. Myths and Tales of the Jicarilla Apache Indians. New York. Memoires of the American Folklore Society 406 p.

Opler, Morris E. 1940. Myths and Legends of the Lipan Apache Indians. New York. American Folklore Society 296 p.

Opler, Morris E. 1942. Myths and Tales of the Chiricahua Apache Indians. New York. American Folklore Society 114 p.

Orbigny, Alcide D. d'. 1844. Voyage dans l'Amérique Méridionale. Vol. III. Paris. 464 p.

Osgood, Cornelius. 1959. Ingalik Mental Culture. New Haven: Yale University. 195 p.

Oswalt, Wendell H. 1967. Alaskan Eskimos. San Francisco: Chandler Publishing Co. 297 p.

Palma, Milagros. 1984. Los Viajeros de la Gran Anaconda. Managua: Editorial América Nuestra. 245 p.

Pâques, Viviana. 1964. L'arbre cosmique dans la pensée populaire et dans la vie quotidienne du nord-ouest africain. Paris: Institut d'Ethnologie, Musée de l'Homme. 696 p.

Parrinder, Geoffrey. 1967. African Mythology. London: Paul Hamlyn. 141 p.

Parsons, Elsie C. 1923. The origin myth of Zuñi. Journal of American Folklore 36(140): 135-162.

Parsons, Elsie C. 1926. Tewa Tales. New York: the American Folklore Society. 304 p.

Parsons, Elsie C. 1929. Kiowa Tales. New York: the American Folklore Society. 152 p.

Parsons, Elsie C. 1932. Isleta, New Mexico. 47th Annual Report of the Bureau of American Ethnology to the Secretary of the Smithsonian Institution (1929-1930): 193-463.

Paulme, Denise. 1968. Sur trois textes africaines (bété, dogon, kikuyu). Cahiers d'Études Africaines 30: 206-244.

Pavlov, Pavel Yu. 2009. Paleolit severo-vostoka Yevropy [The Paleolithic of the Northeast of Europe]. Dissertation for the degree of Doctor of Historical Sciences. Defended at Saint-Petersburg, Institute for the History of Material Culture, 25 March 2009.

Pechuël-Loesche, E. 1907. Volkskunde von Loango. Stuttgart: Strecker & Schröder. 282 S.

Pelikh, Galina I. 1972. Proiskhozhdenie selkupov [The Origins of Selkup]. Tomsk: Izdatel'stvo Tomskogo universiteta. 424 p.

Pelizzaro, Siro. 1990. Arutam. Mitología shuar. Quito: Abya-Yala. 261 p.

Penteado Coelho, Vera. 1988. Zeichnungen der Waurá-Indianer. In Die Mythen Sehen. Bilder und Zeichen vom Amazonas. Mark Münzel, ed. Frankfurt am Main: Museum für Vólkerkunde. P. 467-532.

Pereira, Adalberto H. 1983. O Pensamento Mítico dos Nambikwara. São Leopoldo: Pesquisas, Antropologia. 144 p.

Pereira, Adalberto H.1985. O Pensamento Mítico do Iránxe. São Leopoldo: Pesquisas, Antropologia. 275 p.

Pereira, Adalberto H.1986. O Pensamento Mítico do Paresí. Primera Parte. São Leopoldo: Pesquisas, Antropologia. 441 p.

Pereira, Adalberto H.1995. O Pensamento Mítico do Kayabí. São Leopoldo: Pesquisas, Antropologia. 160 p.

Pereira, Nunes. 1954. Os Indios Maués. Rio de Janeiro: Organização Simões. 171 p.

Pereira, Nunes. 1980. Moronguêtá. Um Decameron Indígena. Rio de Janeiro: Editora Civilização Brasileira. 840 p.

Perry, W.J. 1915. Myths of origin and the home of the dead in Indonesia. Folk-Lore 26(2): 138-152.

Petitot, Émile. 1886. Traditions Indienne du Canada Nord-Ouest. Paris: Maisonneuve Frères et Ch. Leclerc. 521 p.

Pío Aza, Fray José. 1923. Machiguenga. Inca 1(2): 394-397.

Playfair, Alan. 1909. The Garos. London: David Nutt. 179 p.

Pleyte, C.M. 1894. Die Schlange im Volksglauben der Indonesier. Globus 65: 95-100.

Poignant, Roslyn. 1967. Oceanic Mythology. The Myths of Polynesia, Micronesia, Melanesia, Australia. London: Paul Hamlyn. 141 p.

Popov, Andrey A. 1984. Nganasany. Sotsial'noe Ustroistvo i Verovania [The Nganasans. Social Organization and Beliefs]. Leningrad: Nauka. 152 p.

Porotova, T.I. 1982. Skazki narodov sibirskogo severa, Iss. 4 [Folk-Tales of the Peoples of the Siberian North]. Tomsk: Izdatel'stvo Tomskogo universiteta. 188 p.

Potanin, Grigori N. 1881. Ocherki severo-zapadnoi Mongolii. Vypusk II. [Northwest Mongolia Essays. Iss. 2]. St.Petersburg: tipografia V. Kirshbauma. 181 p.

Potanin, Grigori N. 1883. Ocherki severo-zapadnoi Mongolii. Vypusk IV. [Northwest Mongolia Essays. Iss. 2]. St.Petersburg: tipografia V. Kirshbauma. 1025 p.

Potanin, Grigori N. 1893. Tangutsko-tibetskaya okraina Kitaya i Tsentralnaia Mongolia [The Tangut-Tibetan Borderlands of China and Central Mongolia]. Vol. 2. St.Petersburg: tipografia A.S. Suvorina. 437 p.

Powell, John W. 1881. Sketch of the mythology. First Annual Report of the Bureau of Ethnology to the Secretary of the Smithsonian Institution (1879-1880): 19-56.

Powlison, Paul S. 1993. La mitología yagua. Yarinacocha, Pucallpa, Perú: Ministerio de Educación, Instituto Lingüístico de Verano. 148 p.

Prager, Michael. 2005. Half-men, tricksters and dismembered maidens. The cosmological transformation of body and society in Wemale mythology. L'Homme 174: 103-124.

Preuss, Konrad T. 1921a. Bericht über meine archäologischen und ethnologischen Forschungreise in Kolumbien. Zeitschrift für Ethnologie 52(2-3): 89-128.

Preuss, Konrad T. 1921b. Religion und Mythologie der Witoto. Textaufnahmen und Beobachtungen bei einer Indianer Stamm in Kolumbien, Südamerika. Göttingen: Vandenhoeck; Leipzig: Hinricks. 760 S.

Quam, Alvina. 1972. The Zunis. Albuquerque: University of New Mexico Press. 245 p.

Radcliffe-Brown, Alfred R. 1926. The rainbow-serpent myth of Australia. The Journal of the Royal Anthropological Institute 56: 19-25.

Radcliffe-Brown, Alfred R. 1930. The rainbow-serpent myth in South-East Australia. Oceania 1(2): 342-347.

Radin, Paul. 1952. African Folktales. Princeton: Princeton University Press. 322 p.

Rahmann, Rudolf. 1955. Quarrels and enmity between the Sun and the Moon. A contribution to the mythologies of the Philippines, India, and the Malay Peninsula. Folklore Studies 14: 202-214.

Rakhimov, Rakhmat R. 2007. Koran i rozovoe plamia. Razmyshlenia o tadjikskoi kul'ture [Koran and Rose Flame. Thoughts about Tajik Culture]. St. Petersburg: Nauka. 388 p.

Raponda-Walker, André. 1967. Contes Gabonais. Saint-Amand-Montrond: Présence Africaine. 491 p.
Rasmussen, Knud. 1931. The Netsilik Eskimos. Copenhagen: the Fifth Thule Expedition. 542 p.
Rauschert, Manfred von. 1967. Materialien zur geistigen Kultur der ostkaraibischen Indianerstämme. Anthropos 62(1-2): 165-206.
Ray, Verne F. 1933. Sanpoil folk tales. Journal of American Folklore 46(180): 129-187.
Reagan, Albert B. 1927. Notes on Jemez ethnography. American Anthropologist 29(4): 719-728.
Reagan, Albert B., & L. V. W. Walters. 1933. Tales from the Hoh and Quileute. Journal of American Folklore 46(182): 297-346.
Reichel-Dolmatoff, Gerardo. 1971. Amazonian Cosmos. The Sexual and Religious Symbolism of the Tukano Indians. Chicago, London: The University of Chicago Press. 290 p.
Reichel-Dolmatoff, Gerardo. 1985. Los Kogi. Una Tribu de la Sierra Nevada de Santa Marta, Colombia. Vol.2. Bogotá: Procultura. 279 p.
Rekeev, Aleksei. 1896. Iz chuvashskih verovanii [From beliefs of the Chuvash]. Offprint from Izvestia Kazanskoi yeparkhii. Iss. 1. Kazan. [No publishing house]. 5 p.
Retel-Laurentin, Anne. 1968. Structure et symbolisme: Essai méthodologique pour l'étude de contes africains. Cahiers d'Études Africaines 30: 206-244.
Retel-Laurentin, Anne. 1986. Contes du Pays Nzakara (Centralafrique). Paris: Éditions Karthala. 310 p.
Riftin, Boris L.1980. Kitaiskaia mifologia [Chinese mythology]. Mify Narodov Mira. Vol. 1. Moscow: Sovetskaya entsiklopedia. P. 653-662.
Roberts, Allen F. 1991. Where the king is coming from. Uppsala Studies in Cultural Anthropology 16: 249-269.
Robinson, Roland. 1956. The Feathered Serpent. The Mythological Genesis and recreative ritual of the aboriginal tribes of the Northern Australia. Sydney: Edwards & Shaw. 87 p.
Rochereau, H. J. 1929. Nociones sobre creencias, usos y costumbres de los Catíos del Occidente del Antioquia. Journal de la Société des Américanistes 21: 71-105.
Rockman Napaljarri, Peggy, & Lee Cataldi. 1994. Yimikirli. Warlpiri Deamings and Histories. San Francisco, London, Pymble NSW: Harper Collins. 193 p.
Rodríguez Álvarez, Ángel. 2009. Mitología Taína o Eyeri. Ramón Pané y la Relación sobre las Antigüedades de los Índios. San Juan, Puerto Rico: Editorial Nuevo Mundo. 406 p.
Roe, Peter G. 1989. Of rainbow dragons and the origin of designs: Waiwai and the Shipibo Ronin Ehua. Latin American Indian Literature Journal 5(1): 1-67.
Rojas, Aurelio. 1986. Mitos, leyendas y creencias en los Huitoto. Amazonía Peruana 7(13): 103-112.
Rooth, Anna B. 1971. The Alaska Expedition 1966. Myths, Customs and Beliefs among the Athapascan Indians and the Eskimos of Northern Alaska. Lund: Lund University. 393 p.
Rootsi S. 2004. Human Y-Chromosomal Variation in European Populations. Tartu. 142 p.
Roscoe, John. 1911. The Baganda. An Account of their Native Customs and Beliefs. London, New York: MacMillan Co. 547 p.
Roth, Walter E. 1915. An Inquiry into the Animism and Folklore of the Guiana Indians. 30th Annual Report of the Bureau of Ethnology to the Secretary of the Smithsonian Institution (1908-1909): 26-745.
Rueda, Marco V. 1987. Setenta Mitos Shuar (Edición bilungüe). Quito: Ediciones Abya-Yala. 304 p.
Russel, Frank. 1898. Myths of the Jicarilla Apache. Journal of American Folklore 11: 253-271.
Saake, Wilhelm. 1968. Mythen über Inapirikuli, den Kulturheros der Baniwa. Zeitschrift für Ethnologie 93(1-2): 260-273.

Saint Clair, Harry H. 1909. Shoshone and Comanche tales. Journal of American Folklore 22(85): 265-282.

San Román, Jesús. 1986. Mitos de los Huitoto. Amazonía Peruana 7(13): 113-118.

Santos-Granero, Fernando. 1991. The Power of Love. The Moral Use of Knowledge amongst the Amuesha of Central Peru. London: Athlone Press.

Santos-Granero, Fernando. 1992. The dry and the wet: astronomy, agriculture and ceremonial life in Western Amazonia. Journal de la Société des Américanistes 78(2): 107-132.

Sapir, Edward. 1909. Takelma Texts. Philadelphia: University of Pennsylvania 263 p.

Sapir, Edward. 1910. Yana Texts. Berkeley: University of California Press. 235 p.

Sarfert, Ernst, and Hans Damm. 1931. Luangiua und Nukumanu. Hamburg. Ergebnisse der Südsee Expedition, 1908-10. Bd. 12. Teil 2. S. 245-506.

Schaden, Egon. 1947. Mitos e contos dos Ngúd-Krág. Sociologia 9(3): 257-271.

Schärer, Hans. 1966. Der Totenkult der Ngadju Dajak in Süd-Borneo. Mythen zum Totenkult und die Texte zum Tantolak Matei. 'S-Gravenhage: Martinus Nuhoff. 963 S.

Schebesta, Paul. 1931. Among the Forest Dwarfs of Malaya. London: Hutchinson & Co. 288 p.

Schefold, Reimar. 1988. Lia. Das groβe Ritual auf den Mentawai-Inseln (Indonesien). Berlin: Dieter Reimer Verlag. 695 S.

Schindler, Helmut. 1979. Karihona-Erzählungen aus Manacaro. St.Agustin: Anthropos-Institut. 191 S.

Schmitz, Robert. 1912. Les Baholoholo (Congo Belge). Bruxelles: Albert de Wit. 605 p.

Schott, Rüdiger. 1989. Gott in Erzählungen der Bulsa (Nord-Ghana). Paideuma 35: 257-272.

Schotter, P. Aloys. 1911. Notes ethnographiques sur les tribus de Kouy-tcheou (Chine). Anthropos 6(2): 318-344.

Schwab, George. 1914. Bulu folk-tales. Journal of American Folklore 27(105): 266-288.

Schwab, George. 1947. Tribes of Liberian Hinterland. Cambridge, Mass.: Peabody Museum. 526 p.

Schwab, Johann. 1970. Klan-Gliederung und Mythen in Küsternnahen Inland-Gebiet zwiechen Sepik und Ramu (Nordost-Neuguinea). Anthropos 65(5-6): 758-793.

Sergeeva, Katerina S. 1968. Skazochnik Kivagme [Storyteller Kivagme]. Magadan: Knizhnoe Izdatel'stvo. 158 p.

Shan'shina, Elena V. 2000. Mifologicheskie predstavlenia u tungusoyazychnyh narodov yuga Dal'nego Vostoka Rossii [Mythological Beliefs among the Tungus-speaking Peoples of the Far East of Russia]. Vladivostok: Dalnauka. 156 p.

Sicard, Harald von. 1966. Karanga stars. Southern Rhodesia Native Affairs Department Annual 9(3): 142-165.

Simchenko, Yuri B. 1976. Kul'tura okhotnikov na olenei Severnoi Yevrazii [Culture of the Reindeer Hunters of Northern Eurasia]. Moscow: Nauka. 311 p.

Simms, Stephen C. 1906. Myths of the Bungees or Swampy Indians of Lake Winnipeg. Journal of American Folklore 19(75): 334-340.

Skeat, Walter W. & Charles O. Blagden. 1900. Malay Magic. An Introduction to the Folklore and popular Religion of the Malay Peninsula. London, New York: MacMillan Co. 593 p.

Skeat, Walter W. & Charles O. Blagden. 1906. Pagan Races of the Malay Peninsula. Vol. 2. London: Macmillan. 855 p.

Skinner, Alanson. 1911. Notes on the Eastern Cree and Northern Saulteaux. Anthropological Papers of the American Museum of Natural History 9(1): 1-178.

Smith, Edwin W., & Andrew M. Dale. 1920. Ila-Speaking Peoples of Northern Rhodesia. Vol. 2. London: MacMillan & Co. 433 p.

Smithson, Carma L., & Robert C. Euler. 1994. Havasupai Legends. Salt Lake City: University of Utah Press. 125 p.

Speck, Frank G. 1909. Ethnology of the Yuchi Indians. University of Pennsylvania, Anthropological Publications of the University Museum 1(1): 1-154.
Spicer, Edward H. 1980. The Yaquis. Tucson: The University of Arizona Press. 393 p.
Spieth, Jakob. 1906. Die Ewe-Stämme. Berlin: Dietrich Reimer. 962 S.
Steinen, Karl von den. 1897. Unter den Naturvölkern Zentral-Brasiliens. Berlin: D. Reimer. 413 S.
Stephens, Alexander M. 1929. Hopi tales. Journal of American Folklore 42: 1-72.
Stephens, Alexander M. 1930. Navajo origin legend. Journal of American Folklore 43(167): 88-104.
Stevenson, Matilda C. 1894. The Sia. 11th Annual Report of the Bureau of Ethnology to the Secretary of the Smithsonian Institution (1889-1890). P. 3-157.
Stevenson, Matilda C. 1904. The Zuñi Indians: their mythology, esoteric fraternities, and ceremonies. 23th Annual Report of the Bureau of Ethnology to the Secretary of the Smithsonian Institution (1901-1902). P. 13-634.
Stirling, Mattew W. 1938. Historical and Ethnographical Material on the Jivaro Indians. Washington D.C.: Smithsonian Institution. 139 p.
Stirling, Mattew W. 1942. Origin Myth of Acoma and Other Records. Washington D.C.: Smithsonian Institution 123 p.
Stocks, C. de Beauvoir. 1925. Folk-lore and Customs of the Lap-chas of Sikkim. Journal and Proceedings of the Asiatic Society of Bengal 21: 325-505.
Stöhr, Waldemar, & Piet Zoetmulder. 1965. Die Religionen Indonesiens. Stuttgart, Berlin, Köln, Mainz: W. Kohlhammer. 356 S.
Stoinev, Anani. 2006. B'lgarska mitologia [Bulgarian Mythology]. Sofia: Zakhari Stoyanov. 368 p.
Stoneking, Mark and Frederick Delfin. 2010. The Human Genetic History of East Asia. Weaving a Complex Tapestry. Current Biology 20, R188–R193.
Struck, Bernhard. 1909. Das Chamäleon in der afrikanischen Mythologie. Globus 96(11): 174-177.
Stubbs, L.N. 1934. Notes on beliefs and customs of the Malwal Dinka of the Bahr el Ghazal Province. Sudan Notes and Records 17(2): 243-254.
Studstill, John D. 1984. Les Desseins d'Arc-en-ciel: Épopée chez les Luba du Zaïre. Paris: Éditions du Centre Nacional de la Recherche Scientifique. 169 p.
Suas, J. Bt. 1912. Lolopuépué (Oba). Mythes et légendes des indiènnes des Nouvelles-Hébrides (Océanie). Anthropos 7(1-2): 33-66.
Swanton, John Reed. 1908. Haida Texts, Masset Dialect. Leiden, New York: Jesup North Pacific Expedition, Publ. 10. P. 273-812.
Swanton, John Reed. 1909. Tlingit Myths and Texts. Washington D.C.: Smithsonian Institution. 351 p.
Swanton, John Reed. 1928. Religious beliefs and medical practices of the Creek Indians. 42th Annual Report of the Bureau of American Ethnology to the Secretary of Smithsonian Institution (1924-1925): 473-672.
Swanton, John Reed. 1929. Myths and Tales of the Southeastern Indians. Washington D.C.: Smithsonian Institution. 275 p.
Swanton, John Reed. 1931. Source Material for the Social and Ceremonial Life of the Choctaw Indians. Washington D.C.: Smithsonian Institution. 282 p.
Swanton, John Reed. 1942. Source Materials on the History and Ethnology of the Caddo Indians. Washington D.C.: Smithsonian Institution. 332 p.
Symonds, Patricia V. 2004. Calling in the Soul. Gender and the Cycle of Life in a Hmong Village. Seattle & London: University of Washington Press. 326 p.

Talbot, P. Amaury. 1911. The Buduma of Lake Chad. The Journal of the Royal Anthropological Institute of Great Britain and Ireland 41: 245-257.
Talbot, P. Amaury. 1932. Tribes of the Niger Delta. London: The Sheldon Press. 350 p.
Tastevin, Constant P. 1923. Les Indiens Mura de la région de l'Autaz (Haut-Amazonie). L'Anthropologoe 33: 509-533.
Tastevin, Constant P. 1925. La légende de Bóyusú en Amazonie. Revue d'Ethnographie et des Traditions Populaires 6(22): 172-206.
Tattevin, P.E. 1931. Mythes et légendes du sud de L'île Pentecôte. Anthropos 26(5-6): 863-881.
Taylor, Douglas M. 1951. The Black Caribs of British Honduras. New York. 176 p.
Tegnaeus, Harry. 1950. Le Héros Civilizateur. Contribution a l'Étude Ethnologique de la Religion et de la Sociologie Africaines. Uppsala: Institutionen för allmän och jämförande etnografi. 224 p.
Teit, James A. 1912. Traditions of the Lillooet Indians of British Columbia. Journal of American Folklore 25(98): 287-371
Teit, James A. 1917a. Kaska tales. Journal of American Folklore 30: 427-473.
Teit, James A. 1917b. Thompson tales. In Franz Boas, ed. Folk-Tales of the Salishan and Sahaptin Tribes. Memoires of the American Folk-Lore Society 11: 1-63.
Teit, James A. 1919. Tahltan tales. Journal of American Folklore 32(123): 198-250.
Tello, Julio C. 1923. Wira Kocha. Inca 1(1): 93-320.
Ten Raa, Erik. 1969. The Moon as a symbol of life and fertility in Sandawe thought. Africa (London) 39(1): 24-53.
Tessmann, Günter. 1934. Die Bafia und die Kultur der Mittelkamerun-Bantu. Stuttgart: Strecker und Schröder. 270 S.
Tessmann, Günter. 1937. Die Baja. Ein Negerstamm im Mittleren Sudan. Teil 2. Stuttgart: Strecker und Schröder. 182 S.
Thiemer-Sachse, Ursula. 1988. El sincretismo y el mesianismo de los zapotecas de México del Sur. Revindi 2: 33-38.
Thomas, Northcote W. 1919. Nigerian notes. Astronomy. Man 19(91-92): 179-183.
Thompson, Stith. 1951. The Folklore. New York: The Dryden Press. 510 p.
Trilles, R.P. 1932. Les Pygmées de la Forêt Équatoriale. Paris: Librairie Vloud & Gay. 530 p.
Trupp, Fritz. 1977. Mythen der Makuna. Wien: Institut für Volkerkunde. 152 S.
Tsivian, Tatiana V. 1988. Motif nakazania mesiatsa v siuzhete nebesnoi svat'by [Motif of punishment of the Moon in the sky marriage tale]. Balto-slavianskie issledovania 1986. Moscow.: Nauka. P. 228-238.
Tuchkova, Natalia A. 2004. Mifologia Sel'kupov [Selkup Mythology]. Tomsk: Izdatel'stvo Tomskogo universiteta. 382 p.
Turbay Ceballos, Sandra. 1998. El arco iris en la concepción de los zenúes. Boletín de Antropología 12(29): 9-18.
Turnbull, Colin M. 1959. The legends of the BaMbuti. The Journal of the Royal Anthropological Institute of Great Britain and Ireland 89 (part 1): 45-60.
Turnbull, Colin M. 1965. The Mbuti Pigmies: an Ethnographic Survey. Anthropological Papers of the American Museum of Natural History. Vol. 50. Part 3. P. 139-282.
Urton, Gary. 1981. At the Crossroads of the Earth and the Sky. An Andean Cosmology. Austin: University of Texas Press. 248 p.
Valcárcel, Luis E. 1958. Símbolos mágico-religiosos de la cultura andina. In Miscelánea Paul Rivet. Vol. 2. Mexico: Universidad Nacional Autónoma de México. P. 563-581.
Valentine, C.A. 1965. The Lakalai of New Britain. P. Lawrence, M.J. Meggitt, eds. Gods, Ghosts, and Men in Melanesia. Melbourne, etc.: Oxford University Press. P. 162-197.

Van Akkeren, Ruud. 2000. Place of the Lord's Daughter. Rab'inal, its history, its dance-drama. Leiden: School of Asian, African, and Amerindian Studies. 555 p.
Vasilevich, Glafira M. 1959. Rannie predstavlenia o mire u evenkov (materialy) [Early ideas about the world among the Evenk (the materials)]. Trudy Instituta Etnografii 51: 157-192.
Venbrux, Eric. 2010. The Moon in Australian Aboriginal myths of the origin of death. New Perspectives on Myth. Wim M.J. van Binsbergen & Eric Venbrux, eds. Haarlem: An African Journal of Philosophy. P. 25-40.
Vickers, William T. 1989. Los Sionas y Secoyas. Quito: Ediciones Abya-Yala. 374 p.
Vieira, Vincent. 2009. The constellation of Orion and the Cosmic Hunt in Equatorical Africa. Anthropos 104(2): 558-561.
Villamañán, Adolfo de. 1975. Cosmovisión y religiosidad de los Barí. Antropológica, Caracas 42: 3-27.
Villamañán, Adolfo de. 1982. Introdución al mundo religioso de los Yukpa. Antropológica, Caracas 57: 3-24.
Villanes Cairo, Carlos. 1978. Los Dioses Tutelares de los Wanka. Huancayo, Peru: Editorial San Fernando. 170 p.
Villas Boas, Orlando & Claudio Villas Boas. 1973. Xingu: The Indians, their Myths. New York: Farrar a.o. 270 p.
Viner, H.E. Scrope. 1928. Primitive beliefs of Nicaragua Indians. Folk-Lore 39(2): 166-171.
Vitebsky, Piers. 1980. Birth, entity and responsibility: the spirit of the Sun in Sora cosmology. L'Homme 20(1): 47-70.
Voegelin, Charles F. 1935. Tübatulabal texts. University of California Publications in American Archaeology and Ethnology 34(3): 191-246.
Voegelin, Charles F. 1942. Culture element distributions: XX. Northeast California. University of California Anthropological Records 7(2): 47-251.
Volkhonski B.M., O.M. Solntseva. 1985. Singalskie skazki [Sinhalese Folktales]. Trans. from English and Sinhalese. Moscow: Nauka. 544 p.
Vorobiev, Nikolai I., G.M. Khisamutdinov. 1967. Tatary Srednego Povolzhia i Priuralia [The Tatars of Middle Volga and cis-Ural Region]. Moscow: Nauka. 538 p.
Voth, H.R. 1905. The Traditions of the Hopi Indians. Chicago. Field Columbian Museum 319 p.
Vroklage, B.A.G. 1952. Ethnographie der Belu un Zentral-Timor. Teil 2. Leiden: E.J. Brill. 228 S.
Vydrin, Valentin F. 1999. Manding-English Dictionary. St.Petersburg: Dmitry Bulanin Publishing House. 315 p.
Wagley, Charles & Eduardo Galvão. 1949. The Tenetehara Indans of Brazil. New York: Columbia University Press. 200 p.
Wagner, Emile R. 1949. The Bantu of North Kavirondo. Vol. 1. London, New York, Toronto: Oxford University Press. 511 p.
Waisbard, Simone-Roger. 1959 Les Indiens shamans de l'Ucayali et du Tamaya. L'Ethnographie 53: 19-74.
Walker, James R. 1917. The Sun Dance and other ceremonies of the Oglala division of the Teton Dakota. Anthropological Papers of the American Museum of Natural History 16(2): 51-221.
Walker, Barbara K., & Warren S. Walker. 1980. Nigerian Folk Tales. Hamden, Connecticut: Archon Books. 157 p.
Wallis, Wilson D. 1936. Folk tales from Shumopovi, Second Mesa. Journal of American Folklore 49: 1-68.
Wallis, Wilson D., & Ruthe S. Wallis. 1955. The Micmac Indians of Eastern Canada. Minneapolis: University of Minnesota Press. 515 p.

Warneck, Johannes. 1923. Die Religion der Batak. Ein Paradigma für animistische Religionen des Indischen Archipels. Leipzig: J.C. Hinrichs. 136 S.

Wassen, Henry. 1933. Cuentos de los Indios Chocós. Journal de la Société des Américanistes 25(1): 103-137.

Waterhouse, Rev. Joseph. 1866. The Kind and People of Fiji. London: Hayman Brothers. 342 p.

Waterman, Patricia P. 1987. A Tale-Type Index of Australian Aboriginal Oral Narratives. Helsinki: Suomalainen Tiedeakatemia. 173 p.

Wavrin, Robert, le Marquis de. 1932. Folk-lore du Haut-Amazonie. Journal de la Société des Américanistes 24(1): 121-146.

Weeks, John H. 1914. Among the Primitive Bakongo. London: Seeley, Service & Co. 318 p.

Weiss, Gerald. 1975. Campa Cosmology. Anthropological Papers of the American Museum of Natural History. Vol. 52. Part 5. P. 217-588.

Weitlaner, Roberto J., & Castro Guevara, Carlo A. 1954. Papeles de la Chinantla. Vol. 1. México: Museo Nacional de Antropología. 271 p.

Werner, Alice. 1912. Note on Bantu star-names. Man 12: 193-196.

Werner, Alice. 1915. Some notes on East African folklore. Folk-Lore 26(1): 60-78.

Werner, Alice. 1933. Myths and Legends of the Bantu. London, Bombay, Sidney: George G. Harrap & Co. 335 p.

Wheeler, Gerald C. 1926. Mono-Alu folklore London: G. Routledge. 394 p.

White, Leslie A. 1932. The Acoma Indians. 47th Annual Report of the Bureau of Ethnology to the Secretary of the Smithsonian Institution (1929-1930): 15-192.

Whitman, William. 1938. Origin legends of the Oto. Journal of American Folklore 51(200): 173-205.

Whitten, Norman E. 1985. Sicuanga Runa. The Other Side of Development in Amazonian Ecuador. Urbana and Chicago: University of Illinois Press. 314 p.

Wilbert, Johannes. 1963. Indios de la Región Orinoco-Ventuari. Monografía 8. Caracas: Fundación La Salle de Ciencias Naturales, Editorial Sucre. 263 p.

Wilbert, Johannes. 1970. Folk Literature of the Warao Indians. Los Angeles: UCLA Latin American Center Publications, University of California. 614 p.

Wilbert, Johannes. 1978. Folk Literature of the Gê Indians, Vol.1. Los Angeles: UCLA Latin American Center Publications, University of California. 653 p.

Wilbert, Johannes. 1981. Warao cosmology and Yecuana roundhouse symbolism. Journal of Latn American Lore 7(1): 37-72.

Wilbert, Johannes, Karin Simoneau. 1982a. Folk Literature of the Mataco Indians. Los Angeles: UCLA Latin American Center Publications, University of California. 507 p.

Wilbert, Johannes, Karin Simoneau. 1982b. Folk Literature of the Toba Indians, Vol. 1. Los Angeles: UCLA Latin American Center Publications, University of California. 597 p.

Wilbert, Johannes, Karin Simoneau. 1983. Folk Literature of the Bororo Indians. Los Angeles: UCLA Latin American Center Publications, University of California. 339 p.

Wilbert, Johannes, Karin Simoneau. 1984a. Folk Literature of the Gê Indians, Vol. 2. Los Angeles: UCLA Latin American Center Publications, University of California. 684 p.

Wilbert, Johannes, Karin Simoneau. 1984b. Folk Literature of the Tehuelche Indians. Los Angeles: UCLA Latin American Center Publications, University of California. 266 p.

Wilbert, Johannes, Karin Simoneau. 1985. Folk Literature of the Chorote Indians, Los Angeles: UCLA Latin American Center Publications, University of California. 400 p.

Wilbert, Johannes, Karin Simoneau. 1986. Folk Literature of the Guajiro Indians. Los Angeles: UCLA Latin American Center Publications, University of California. 997 p.

Wilbert, Johannes, Karin Simoneau. 1987a. Folk Literature of the Chamacoco Indians. Los Angeles: UCLA Latin American Center Publications, University of California. 744 p.

Wilbert, Johannes, Karin Simoneau. 1987b. Folk Literature of the Nivaklé Indians, Los Angeles: UCLA Latin American Center Publications, University of California. 763 p.

Wilbert, Johannes, Karin Simoneau. Wilbert, Johannes, Karin Simoneau. 1989a. Folk Literature of the Toba Indians, Vol. 2. Los Angeles: UCLA Latin American Center Publications, University of California. 823 p.

Wilbert, Johannes, Karin Simoneau. 1989b. Folk Literature of the Ayoreo Indians. Los Angeles: UCLA Latin American Center Publications, University of California. 802 p.

Wilbert, Johannes, Karin Simoneau. 1990a. Folk Literature of the Caduveo Indians, Los Angeles: UCLA Latin American Center Publications, University of California. 198 p.

Wilbert, Johannes, Karin Simoneau. 1990b. Folk Literature of the Yanomami Indians, Los Angeles: UCLA Latin American Center Publications, University of California. 789 p.

Wilbert, Johannes, Karin Simoneau. 1990c. Folk Literature of the Yaruro Indians, Los Angeles: UCLA Latin American Center Publications, University of California. 780 p.

Wilbert, Johannes, Karin Simoneau. 1991. Folk Literature of the Cuiva Indians. Los Angeles: UCLA Latin American Center Publications, University of California. 348 p.

Wilbert, Johannes, Karin Simoneau. 1992. Folk Literature of the Sikuani Indians. Los Angeles: UCLA Latin American Center Publications, University of California. 673 p.

Will, George F., & Herbert J. Spinden. 1906. The Mandans. Cambridge: Peabody Museum of Natural History. 219 p.

Williams, Francis E. 1941. Natives of Lake Kutubu, Papua. Oceania 12(2): 134-154.

Williams, Thomas R. 1961. A Tambunan Dusun origin myth. Journal of American Folklore 74(291): 68-73.

Williamson, Robert W. 1933. Religious and Cosmic Beliefs of Central Polynesia. Cambridge: University Press. Vol.1, 399 p. Vol.2, 398 p.

Wilson, Jack L. 1947. Apayao Life and Legends. Baguio (The Philippines): privately printed. 195 p.

Wilson, Monica. 1959. Communal Rituals of the Nyakyusa. London, New York, Toronto: Oxford University Press. 228 p.

Winstedt, Richard O. 1951. The Malay Magician being Shaman, Saiva and Sufi. London: Routledge & Kegan Paul. 160 p.

Wirz, Paul, & Hans Nevermann. 1981. Mify i predania papuasov marind-anim [Myths and Legends of Marind-anima Papuans]. Trans. from German. Moscow: Nauka. 350 p.

Wisdom, Charles. 1940. The Chorti Indians of Guatemala. Chicago: University of Chicago Press. 490 p.

Wissler, Clark, & D. C. Duvall. 1908. Mythology of the Blackfoot Indians. New York: American Museum of Natural History. 163 p.

Wood, Raymond W. 1967. An Interpretation of Mandan Culture History. Washington D.C.: Smithsonian Institution. 232 p.

Yamada, Hitoshi. 2002. Religiös-mythologische Vorstellungen bei den austronesischen Völker Taiwans. Ein Beitrag zur Ethnologie Ost- und Südostasiens. Inaugural-Dissertation zur Erlangung des Doktorgrades der Philosophie an der Ludweg-Maximilians-Universität. München. 450 S.

Yanshina, Elektra M. 1977. Katalog gor i morei (Shan Hai Jing) [Classic of Mountains and Seas]. Trans. and ed. by E.M. Yanshina. Moscow: Nauka. 235 p.

Yanshina, Elektra M. 1984. Formirovanie i razvitie drevnekitaiskoi mifologii [Formation and Development of Ancient Chinese Mythology]. Moscow: Nauka. 248 p.

Yi, Seonbok, & Geoffrey Clark. 1985. The "Dyuktai Culture" and New World origins. Current Anthropology 26 (1): 1-7.

Yuan Ke. 1987. Mify drevnego Kitaya [Myths of Ancient China]. Trans. from Chinese. Moscow: Nauka. 527 p.

Zakharova, A.V., & D.O. Torshilov. 2003. Globus zvezdnogo neba. Poetichskaya masterskaya Nonna Panopolitanskogo [Globus of Starry Sky. Poetic Workshop of Nonnus of Panopolis]. Saint-Petersburg: Aleteia. 376 p.

Zhukov, Andrei A., Elena S. Kotlyar. 1976. Slazki narodov Afriki [Folk-tales of Peoples of Africa]. Trans. from African and European languages. Moscow: Nauka. 686 p.

Zilhão J. Genes, fossils and culture. An overview of the evidence for Neanderthal - modern human interaction and admixture. Proceedings of the Prehistoric Society (Nottingham). 2006. Vol. 72. P. 1-20.

Zolbrod, Paul G. 1995. Diné bahané. The Navajo Creation Story. Albuquerque: University of New Mexico Press. 431 p.

Zuidema, R. Tom. 1976. La imagen del sol y la huaca de Susurpuqio en el sistema astronómico de los incas en el Cuzco. Journal de a Société des Américanistes 63: 199-230.

MOTHER TONGUE
Journal of the Association for the Study of Language in Prehistory • *Issue XV* • *2010*
Fifteenth Anniversary Issue • 1995-2010

The Mesolithic Distillation of Pitch and its Ethnolinguistic Reflections: A Holocene Etymology for an Italian Verb

Francesco Benozzo
University of Bologna

Abstract: One of the most important technological innovations of the European Mesolithic is the production of tar and pitch from trees. Within the framework of the Paleolithic Continuity Paradigm (PCP) – which considers the arrival of Indo-European people in Europe and Asia as one of the major episodes of the arrival of *Homo sapiens* in Europe and Asia from Africa, and not as an event of recent prehistory – an ethnolinguistic correlation is here proposed between presentday verbs used in the Italian area with the meaning of 'to light (a fire)' and the process of pitch creation in the Sauveterrian cultural complex (10,000-7,800 B.P.).

Keywords: Paleolithic Continuity Paradigm (PCP) - European Mesolithic - pitch - Sauveterrian - exploitation of fire

In the period between the final Upper Palaeolithic and the introduction of agriculture, cultures of early postglacial Europe (Mesolithic) start to be associated with relevant specialized activities, such as fishing techniques (Atlantic, Germanic and Baltic areas) and wood industry (Middle and Southern Europe) (cfr. Kozlowski [1973], Bagolini *et al.* [1994]). This last feature is a consequence of the increasing progression of the forests and of the exploitation of new resources, and its first evidence is the development of woodworking tools-axes, chisels, adzes and gouges. The strong presence of composite tools in Mesolithic archaeological finds implies the discovery, in the same period, of natural gums and, above all, of new techniques able to create natural glues (cfr. Perlès [1995]).

Starting from these considerations, and according also to the evidence that the usual sealants used for the joints between hides and the sewingholes of boats were pitch, bitumen and tar, the invention of tar and pitch can be ascribed to Mesolithic cultures (cfr. Hayek *et al.* [1990], Aveling-Heron [1998], Sampson *et al.* [2002]). This invention is well reflected in European languages: for example, with regards to the composite tools, Mario Alinei, in the frame of the Palaeolithic Continuity Paradigm (PCP) (cfr. <www.continuitas.org>), notes that "some words [...] still evoke the ancient technique: OIcel. *tjorr* 'sword', but literally 'wooden handle, attached with tar', dial. Swed. *tjör*, *tjor*, *tjur* 'piece of resinous wood from an old pine or fir', 'curved part of the bow'" [Alinei 2003: 211]. Moreover, "the same Germanic word family of *tree* and *tar* also include such words as *trust* and *true*, originally 'reliable'. Traditionally, these words have been connected to *tree*, without any pertinent arguments. More concretely and significantly, both *trust* and *true* 'reliable' could be connected with glueing techniques, and reflect the impact of this innovation on the mind of Germanic Mesolithic fishers and hunters" [ibidem] (cfr. also Alinei [2008; 2010: 526-527]).

Before deepening the linguistic problem, it is relevant to recall that in the Northern Mediterranean region three Mesolithic (M) cultural areas can be identified in the Holocene (cfr. Kozlowski [2005]):

M1) the Iberian microlaminar complex;
M2) the Northern Balkan complex;
M3) the Sauveterrian in Italy, Southern France and part of Balkan area, followed by the Castelnovian diffusion of trapezoidal microliths [FIG. 1].

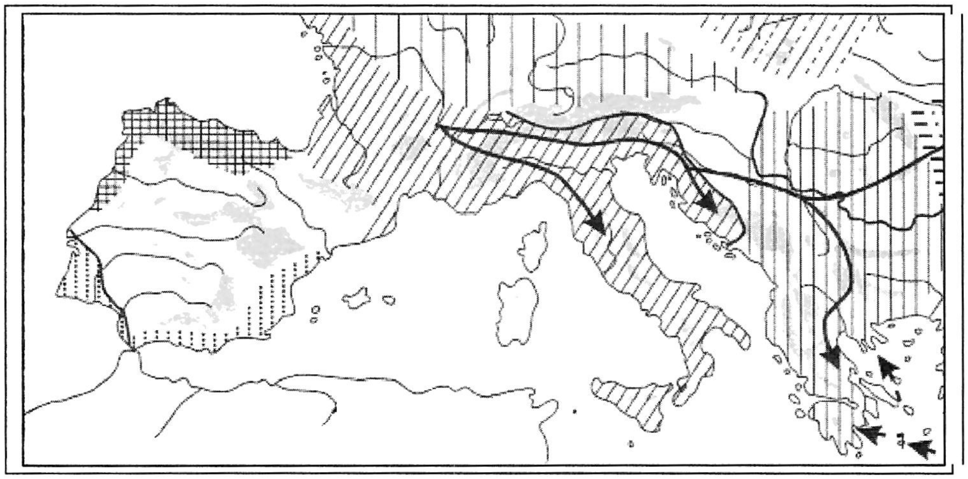


FIG. 1 - Early Holocene Mesolithic
in the Northern Mediterranean area [from Kozlowski 2005]

⁞ = M1 ▥ = M2 ▨ = M3 → = Diffusion of trapezoidal microliths

According to the most recent archaeological research (cfr. *ibidem*), these cultural *facies* must be seen as developments of previous Palaeolithic (P) *facies*: M1 in in continuity with Magdalenian (P1), M2 in continuity with Late Balkanic Epigravettian (P2), and M3 in continuity with Late Italic Epigravettian (P3) [FIG. 2]. This Palaeo-Mesolithic stability, which may be interpreted in some cases also as a substantial permanence of techniques developed by men in the utilization of natural resources (as already stated by Gabel [1958]), can be possibly observed also with regards to the production of tar and pitch: the recent discovery of two stone flakes partly covered in tar in fluvial gravel and clay in central Italy, which are compatible with the late Middle Pleistocene, implies in fact a capability for Pleistocene men to utilize raw materials available during cold phases, and antedates the invention of pitch to Mediterranean Palaeolithic (cfr. Mazza *et al.* [2006]). The lithic industries from this site indicate that in circum-Mediterranean areas tool hafting with tar "had already been accomplished long before similar techniques became a diffused practice in other parts of the world" [*ibidem*: 1317]. As I will argue, this late discovery is not without implications for my etymological hypothesis (and cfr. also Boeda *et al.* [1996], Grünberg [2002]).

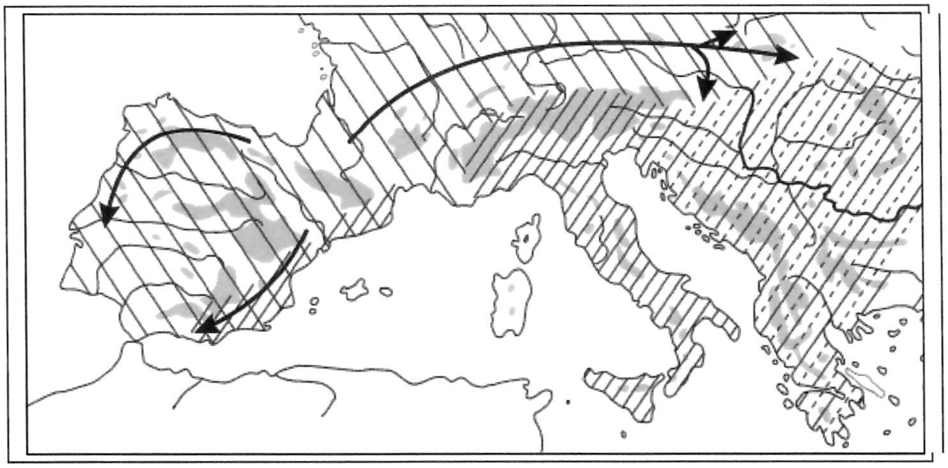


FIG. 2 - Final Upper Palaeolithic in the Late Glacial in the Northern Mediterranean area (14.000-10.000 years B.P.) [from Kozlowski 2005]

▧ = P1 ▨ = P2 ▨ = P3

The invention of pitch implies a skilled knowledge of techniques and procedures associated first of all with the exploitation of fire. Pitch was made by the dry distillation or destructive heating of pinewood (cfr. Bonfield [1997], Kaye [1997], Gibby [1999], Regert-Rolando [2002], Regert *et al.* [2003], Regert [2010]) and the traditional production method was intricately elaborate, akin to smelting, and probably involving the construction of small ovens in the form of an inverted cone, of stone kilns of different kinds, and of rudimentary sealed containers in which to heat bark (cfr. Pollard *et al.* [2006: 154-155])[1].

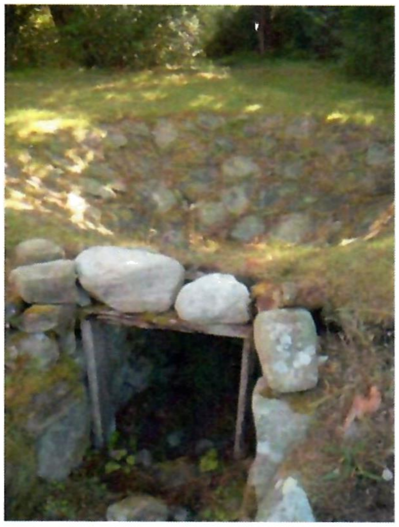
Although many archaeologists still consider it a mystery how Paleo-Mesolithic men could distill pine resin and birch bark ("how these tars were produced in the Paleolithic-Mesolithic age remains a mystery": Peters *et al.* [2005: 336]), modern ethnographic research can provide useful examples.

For instance, among the Native Americans of the Red River Gorge Pine "tar was made by burning pine trees under pressure in kilns. Charcoal and tar were produced, with the tar collected in drainage grooves around the kilns" (cfr. LRRG: 3). Findings of kilns dated at a pre-Neolithic age, such as the one found in Trollskogen (Sweden) may be easily connected to the same technique [FIG. 3].

Another method of producing pine tar was to dig a large pit with a sloping floor. A barrel was set in the ground at the bottom of the slope. The pit was stacked with resin-rich "lightwood" and covered over with dirt except for one ventilation hole. This was the technique in use among the Navaho [FIG. 4]:

---

[1] It has been recently argued that even Neanderthals did not come across these pitches by accident: "Today, comparable pitches can easily be produced with modern technical methods, i.e. using airtight laboratory flasks and temperature control facilities. However, any attempt at simulating the conditions of the Neandertal period and at producing these birch pitches without any of these modern facilities will soon be met with many difficulties. This implies […] a conscious action is, and it is a clear sign of considerable technical capabilities": Koller *et al.* [2001: 386].



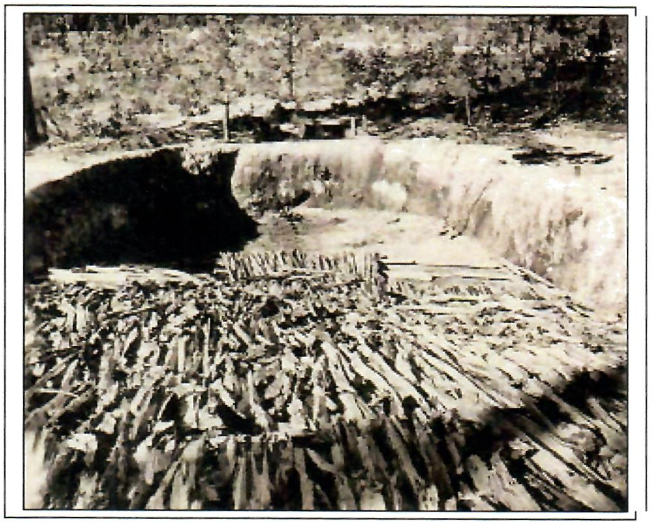
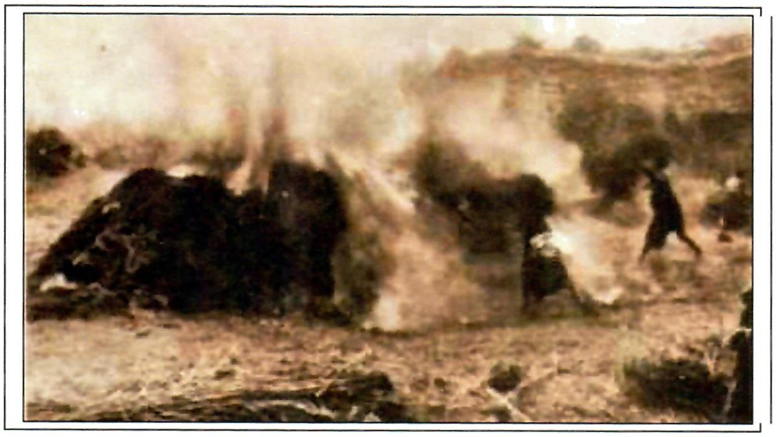


FIG. 3 (*on the left*) - Prehistoric Tar kiln at Trollskogen, Sweden
FIG. 4 (*on the right*) - Tar kiln of the Utah Navaho

In Nigeria, bonfires are constantly added with brushwood from time to time over a period of a day, to gradually raise the temperature high enough to distill pitch [FIG. 5]. Bearing in mind procedures similar to the last one, experiments have been made for reconstructing prehistoric bonfires in order to produce pitch, showing that temperatures of 1800 degrees Fahrenheit can be reached in about 24 hours [FIG. 6]



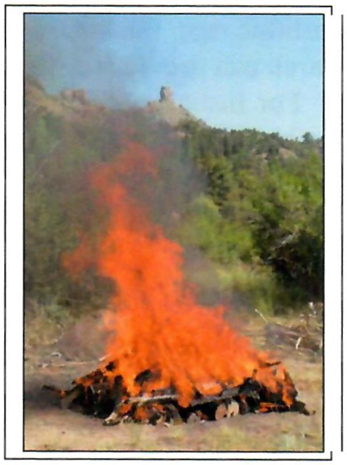


FIG. 5 (*on the left*) - Nigerian bonfire, able to distill pitch when brushwood are constantly added over a period of a day [from Falola 2001]
FIG. 6 (*on the right*) - Experimental reconstruction of a prehistoric fire for pitch production

Other experimental reconstructions of European Mesolithic kilns [FIG. 7] show remarkable similarities with kilns still used in the Italian Apennines till a few years ago by charcoal workers (*carbonaie*) [FIG. 8]: on the level of an uninterrupted continuity – apart from stressing that the prehistoric exploitation of seasonal resources (including distillation of pinewood) is well documented in Northern and Central Apennines (cfr. Lubell *et al.* [1995]) – it should be pointed out that the production of pitch was one of the secondary activities related to the making of charcoal (it was employed for covering roofs, or as a glue for tools, and the *carbonai* used to sell it together with charcoal: cfr. Miniati [1986]).

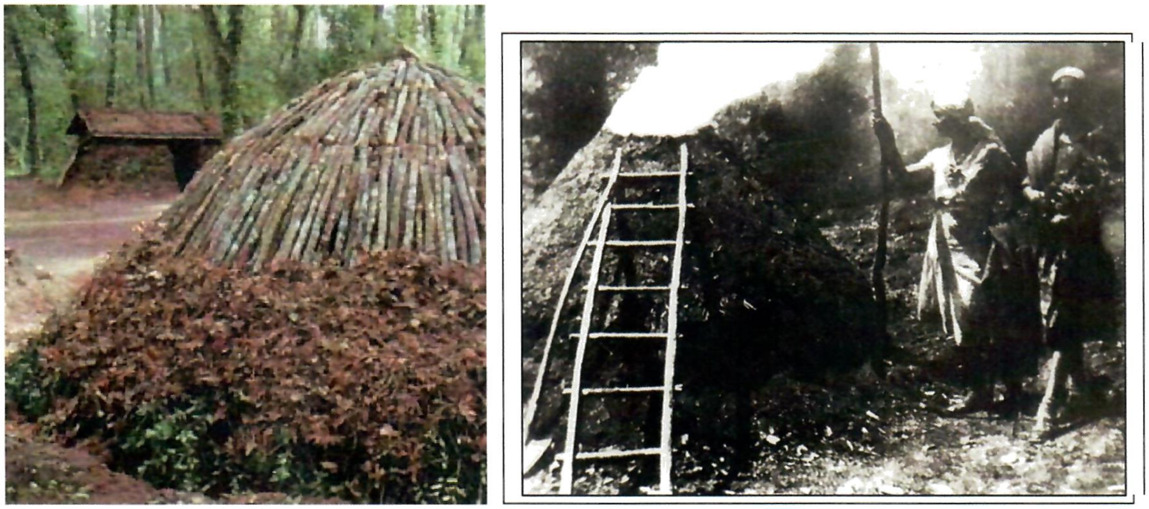


FIG. 7 (*on the left*) - Experimental reconstruction of a Mesolithic kiln; FIG. 8 (*on the right*) - A typical *carbonaia* kiln of the Northern Italian Apennines (beginning of 20th c.) [from Nicoletti 1988]

From the ethnolinguistic and archaeolinguistic perspective offered by the PCP, it would be curious that two crucial and embryonic associations such as the one between *fire* and *pitch* and the one between *fire* and *glue* did not leave any lexical traces. Starting from the Latin word for pitch (i.e. *pix* and *picula*, significantly derived from *pinus* 'pine': cfr. [IEW: 794, Gamkrelidze-Ivanov [1995: 543]), it is possible to re-evaluate in this Mesolithic (or late Palaeolithic) frame the original motivation of the Latin verba *picare* (with the variants **piceare* and *piculare*). This verb endures in a vast Neo-Italid area (cfr. Benozzo-Alinei 2010) with the meanings of 'to tar on, to stick, to glue, to entangle, to take' (cfr. It. *pigliare*, *appiccicare*, *impegolare*, *impegolarsi*, Sard. *pikare*, *pigare*, *pigulare*, Old Occ. *empegar*, Port. *pegar*, South. Fr. (Marseille) *empegar*, Dial. Fr. *poisser*, Bearn. *apegà*, Friul. *peâ*)[2].

---

[2] In this occasion I refrain from discussing the several and often bizarre etymologies usually proposed for explaining the verbs in question: this would subtract too much space from the discussion; to this subject I will dedicate a specific article as soon as possible.

In a more restricted and specific area, which corresponds to that of the Italian dialects [FIG. 9][3], the same verb endures with the meaning of 'to light, to light a fire, to catch fire, to inflame'. As this meaning is documented simultaneously with the others mentioned above, based on the norm of "semantic density" (cfr. Alinei [1996]) one can argue that the Italian area is the one where the verb in question was first lexicalized.

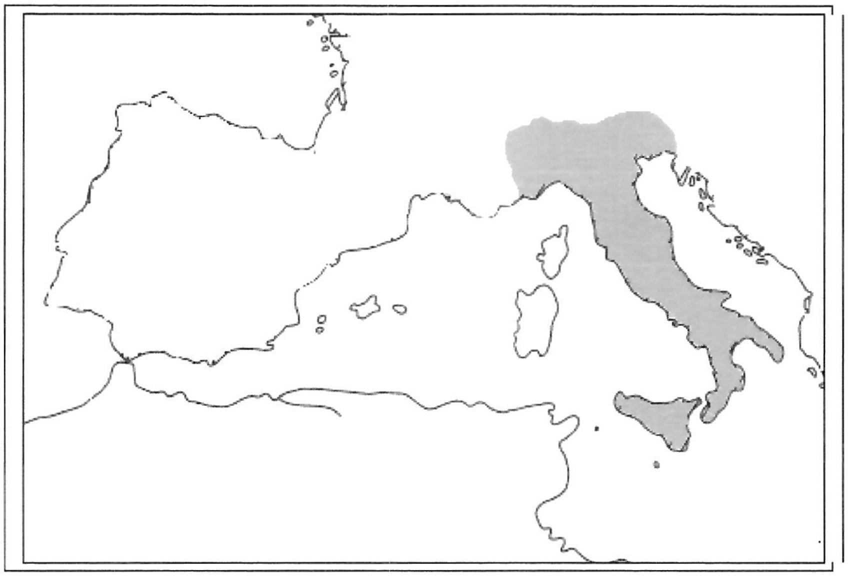


FIG. 9 - ▨ = area of *appicciare, impi(z)èr, (ap)picci(c)à*

As can be seen, with the exception of Sicily (where the verb for 'to light a fire' is *addumàri*), the area where the iconomastic[4] passage {'to produce pitch, to plaster with tar'} _ 'to light (a fire)' is recognizable, strictly corresponds to the Sauveterrian area (M3) where the invention and production of pitch has been inferred by archaeologists [cfr. FIG. 1]. It corresponds in an even closer way to the (Palaeolithic) Late Italian Epigravettian area (P3), where – as argued by Mazza *et al.* [2006] – tar and pitch production was an activity developed as early as the Middle Pleistocene [cfr. FIG. 2].

All the existing forms can be easily connected with the Latin ones, according to the following correspondences (geographically listed in FIG. 10):

(IN +) PICARE

_ North. It. *impigar, mpigà, pigàr*

(IN +) (AD +) *PICEARE

_ North. It. *pizà, pizàr, (i)mpizàr, impizèr, apizà*

---

[3] Also Sp. *pegar* means 'to enflame' in the locution *pegar fuego*: cfr. *DCECH:* IV, 514.

[4] *Iconomastic* was unfamiliar to me, and is not found in most English dictionaries. It is a blend of *icon* + *onomastic*, coined by Mario Alinei to avoid the ambiguous term *motivation*. See also *iconym*, below [Ed.].

_	Centr. It.	*picè*, *appiccia*, *piccià*, *apicè*
_	South. It.	*appiccì*, *appiccià*, *appeccià*, *appeccé*, *mpezà*, *appiccià*

(IN +) PICULARE

_	North. It.	*pià*, *pier*, *impièr*, *(i)mpiàr*, *impeà*
_	Centr. It.	*pier*, *mpiàr*, *apiè*, *pià*

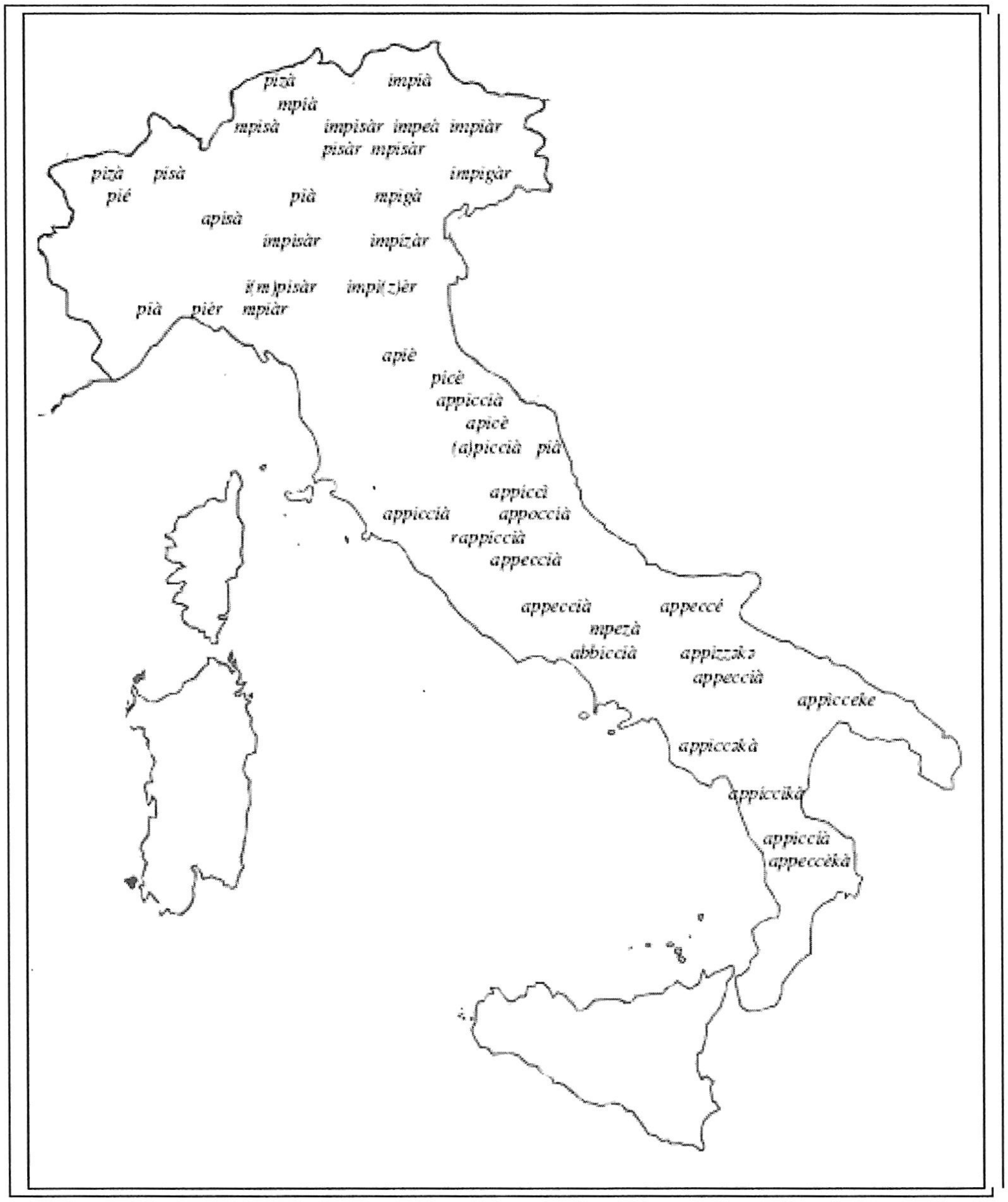

pizà
impià
mpià
mpisà
impisàr
impeà
impiàr
pisàr
mpisàr
pizà
pisà
impigàr
pié
pià
mpigà
apisà
impisàr
impizàr
i(m)pisàr
impi(z)ièr
pià
pièr
mpiàr
apiè
picè
appiccià
apicè
(a)piccià
pià
appiccì
appiccià
appoccià
rappiccià
appeccià
appeccià
appeccé
mpezà
abbiccià
appizzkə
appeccià
appicceke
appiccakà
appiccikà
appiccià
appeccèkà

FIG. 10 - Forms related to *picare*, **piceare*, *piculare* [based on ALI, map nr. 412: 'accendere (il fuoco)', 'prender fuoco' ['to light (a fire)', 'to catch fire']

South. It. forms like *appìzzikà*, *appeccià*, *appìcceke*, *appicc.∵kà*, *appiccikà*, *appeccèkà* (related to It. *appiccicare* 'to stick') seem to have expanded the root *PICEARE in *PICICULARE, presumably in analogy with PICULARE, but also with the possibly meaning of 'to drip pitch' (*pece colare*).

With regard to the forms related to PICULARE, one can assume a palatalization of CL to [×], with subsequent loss of the palatal consonant: this phonetic trait (well known in Transalpine dialects and typical of French) is common in Piedmont dialects (cfr. Rohlfs [1966: 350]), and its diffusion in other northern and central parts of Italy would be consistent with the inferred direction (North-West _ South-East) of Italian Sauveterrian (cfr. Broglio [1996], Binder [2000], Kozlowski [2005], Martini [2008: 181-182]) (see arrows in FIG. 1, referring to the later but identical diffusion of Castelnovian)[5]. In this way, the absence of palatalized forms in Southern Italian dialects could be correlated with the absence of a few Sauveterrian tools in the same area: "una diffusione del modella sauveterriano da nord verso sud e il suo progressive allontanamento dalla provincia culturale originaria potrebbe essere la causa della mancata produzione al Centro-Sud di alcuni manufatti segnalati nei complessi dell'area alpine e delle zone limitrofe, [...] che fanno parte del Mesolitico transalpino" [*ibidem*: 181].

I think that the Italian verb *pigliare* ('to take, to catch') must also be interpreted as a palatalized form of PICULARE, that is to say as an allotrope of the verb *impegolare* 'to entangle', which obviously continues the same root. This correlation is confirmed by the synonymic series *impigliare* ↔ *impegolare* 'to entangle' and *impigliarsi* ↔ *impegolarsi* 'to get entangled'. Moreover, the verb for 'to catch fire' is, in Italian and in all the Italian dialects, *pigliar fuoco* (with the variants, from North to South, *pié*, *pier*, *pià*, *piàr*, *pisà*, *pigà*, *pijà*, *peccià*, *pillà*, *piglià*, *piggià*, *piġġàri*, *piccicàri*, etc.): here, the old meaning of *impegolare* represents an astonishing confirmation of my iconomastic hypothesis, as its medieval meaning (documented in Guido da Pisa, 14th c.) is 'impiastrare, spalmare di pece' ['to plaster, to cover with tar']). In this sense, *impegolare* still works as an iconym of *pigliare* (and *pigliar fuoco*).

To summarize and conclude, the above-mentioned verbs documented in Italian dialects for 'to light (a fire)' should be seen as developments of the iconym {'to produce pitch, to plaster with tar'}, represented by the Latin forms *picare*, **piceare*, *impiculare*, and **piciculare*, all derived from the Latin word for pitch (*pix*, *picem*, *picula*). The iconymic field is the one connected with the various techniques of fire exploitation and of preparation of fires and bonfires in order to distill pitch. This activity was one of the most important innovations in Mesolithic societies, a period when fires, apart from other uses also previously documented, started to be deliberately prepared and lighted for the production of pitches and tars. Cumulative ethnophilological evidence (cfr. Benozzo 2009, 2010a, 2010b) indicates that this verb originated during the twenty-two centuries which coincide with the pre-pottery Neolithic Sauveterrian cultural complex (10.000-7.800 B.P.), an industry clearly linked to the Upper Palaeolithic and Early Epipalaeolithic traditions and to the Final Italic Epigravettian.

---

[5] It has to be noted that in many dialects, such as the Emilian ones, the palatalized forms exist as allotropes of the froms derived from (IN +) *PICEARE (for example, in Modenese *impièr* is synonymous with *impizèr*).

REFERENCES

ALI = L. Massobrio - G. Ronco (ed.) (2001), *Atlante Linguistico Italiano*, vol. V, *La casa e l'arredamento*, Roma, Istituto Poligrafico dello Stato.

Alinei, M. (1996), The Principle of Morphosemantic Density and the Etymology of the Latin *rota* Word Family. In *Studier i talesprogsvariation og sprogkontakt. Til Inger Ejskjær på halvfjerdsårsdagen den 20. maj 1996*, Kobenhavn, Institut for dansk Dialektforskning, C. A. Reitzels Forlag, 11-16.

Alinei, M. (2003), Interdisciplinary and Linguistic Evidence for Palaeolithic Continuity of Indo-European, Uralic and Altaic Populations in Eurasia, with an Excursus on Slavic Ethnogenesis. In *Quaderni di Semantica*, Vol. 24, pp. 187-216.

Alinei, M. (2008), Forty Years of *ALE* [*Atlas Linguarum Europae*]: Memories and Reflexions of the First General Editor of its Mapsand Commentaries. In *Revue Roumanie de Linguistique*, Vol. 52, pp. 5-46.

Alinei, M. (2010), *L'origine delle parole*, Roma, Aracne.

Aveling, E. M. - Heron, C. (1998), Identification of Birch Bark Tar at the Mesolithic site of Star Carr. In *Ancient Biomolecules* 2, pp. 69-80.

Bagolini, , B. - Biagi, P. - Broglio, A. - Koslowski, J.K. - Kozlowski, S.K. - Lanzinger, M. (ed.) (1994), *Human Adaptations to the Mountain. Environmenting the Upper Palaeolithic and Mesolithic*, Trento, Museo Tridentino di Scienze Naturali.

Benozzo, F. (2009), Correlations between Archaeology, Ethnolinguistics and Ethnophilology. In *The European Archaeologist*, Vol. 32, pp. 6-7.

Benozzo, F. (2010a), *Etnofilologia. Un'Introduzione*. Napoli, Liguori.

Benozzo, F. (2010b), Words as Archaeological Finds: A Further Example of the Ethnophilological Contribute to the Study of European Megalithism. In *The European Archaeologist*, Vol. 33, pp. 13-8.

Benozzo, F. – Alinei, M. (2009). Megalithism as a Manifestation of a Celtic Primacy in Meso-Neolithic Europe. In *Studi celtici*, Vol. 7, pp. 13-56.

Benozzo, F. - Alinei, M. (2010), Dalla linguistica romanza alla linguistica neo-italide. In *Atti del VII Convegno Triennale della Società Italiana di Filologia Romanza (Bologna, 5-8 ottobre 2009)*, Bologna, Patron, in press.

Binder, D. (2000), Mesolithic and Neolithic Interaction in Southern France and Northern Italy: New Data and Current Hypothesis. In T.D. Price (ed.), *Europe's First Farmers*, Càmbridge, Cambridge University Press, 117-143.

Boeda, E. - Connan, J. - Dessort, D. - Muhesen, S. - Mercier, N. – Valladas, H. - Tisnerat, N. (1996), Bitumen as a Hafting Material on Middle Palaeolithic Artefacts. In *Nature*, Vol. 380, pp. 336-8.

Bonfield, K.M. - Heron, C. - Nemcek, N. (1997), The Chemical Characterization of Wood Tars in Prehistoric Europe. In W. Brzezinski - W. Piotrowski (ed.), *Proceedings of the First International Symposium on Wood Tar and Pitch*, Warsawa, State Archaeologicum Museum, 203-211.

Broglio, A. (1996), The Formation of the Mesolithic Complexes in the Alpine-Po Valley Region. In *13th International Union of Prehistoric and Protohistoric Sciences*, Forlì, Colloquium 7 (*The Mesolithic*), 41-46.

Connan, J. (1999), Use and Trade of Bitumen in Antiquity and Prehistory: Molecular Archaeology Reveals Secrets of Past Civilizations. In *Philological Transactions of the Royal Society of London*, Vol. 354, pp. 33-50.

DCECH = J. Corominas. - J.A. Pascual (1980-1991), *Diccionario crítico etimológico castellano e hispánico*, Madrid, Gredos.

Falola, T. (2001), *Culture and Customs of Nigeria*, Westport, CT, Greenwood Press.

Gabel, W.C. (1958), The Mesolithic Continuum in Western Europe. In *The American Anthropologist*, Vol. 60, 658-667.

Gamkrelidze, T.V. - Ivanov, V.V. (1995), *Indo-European and the Indo-Europeans. A Reconstruction and Historical Analysis of a Proto-Language and a Proto-Culture*, Berlin-New York, Mouton de Gruyter [*Indoevropejskij Jazyk i Indovropejcj*, Tbilisi, Tbilisi State University, 1984].

Gibby, E.H. (1999), Making Pitch Sticks. In D. Wescott (ed.), *Primitve Technology*, Layton, Gibbs Smith, 189-90.

Grünberg, J.M. (2002), Middle Palaeolithic Birch-Bark Pitch. In *Antiquity*, Vol. 76, pp. 15-16.

Hayek, E.W.H. - Krenmayr, P. - Lohninger, H. - Jordis, H. - Moche, W. - Sauter, F. (1990), Identification of Archaeological and Recent Wood Tar Pitches Using Gas Chromatography/Mass Spectrometry and Pattern Recognition. In *Analytical Chemistry*, Vol. 62, 2038-43.

IEW = J. Pokorny (1959), *Indogermanisches Etymologisches Wörterbuch*, Bern-München, Francke.

Kaye,T. P. (1997), Pine Tar; History and Uses; *on line* at <www.maritime.org/conf/conf-kaye-tar.htm>.

Koller, J. - Baumer , U. - Mania, D. (2001)], High-Tech in the Middle Palaeolithic: Neandertal-Manufactured Pitch Identified. In *European Journal of Archaeology*, Vol. 4, pp. 385-97.

Kozlowski, S.K. (ed.) (1973), *The Mesolithic in Europe*, Warsawa, Warsaw University Press.

Kozlowski, S.K. (2005), Paléolithique supérieur et Mésolithique en Méditerranée: cadre culturel. In *L'Anthropologie*, Vol. 109, pp. 520-540.

LRRG: *Living In The Red River Gorge: An Archaeological Story*, Living Archaeology Committee, 2008; *on line* at <www.southeasternarchaeology.org>.

Lubell, D. - Mussi, M. - Musacchio, A. - Agostini, S. - Coubray, S. - Giraudi, C. (1995), Exploitation of Seasonal Resources in the Mountains of Abruzzo (Central Italy): Epigravettian to Neolithic. In *L'Europe des derniers chasseurs. V^{e} Colloque International UISPP (Grenoble, 18-23 septembre 1995)*, Paris, Éditions du Comité des Travaux Historiques et Scientifiques, 465-472.

Mazza, P.P.A. - Martini, F. - Sala, B. - Magi, M. - Colombini, M.P. - Giachi, G. - Landucci, F.- Lemorini, C. - Modugno, F. - Ribechini, E. (2006), A New Palaeolithic Discovery: Tar-Hafted Stone Tools in a European Mid-Pleistocene Bone-Bearing Bed. In *Journal of Archaeological Science*, Vol. 33, pp. 1310-18

Miniati, M.V. (1986), Carbonai e produzione tradizionale del carbone nell'Appennino tosco-marchigiano. In *Quaderni dell'Istituto di Linguistica dell'Università di Urbino*, Vol. 4, pp. 349-68.

Nicoletti, G. (1988), *I carbonai. Immagini di un mestiere scomparso*, Pordenone, Savioprint.

Perlès, C. (1995), *La transition Pléistocène/Holocène et le problème du Mésolithique*, in *Los ultimos cazadores, transformaciones culturales y economics durante el Tardiglaciar el inicio del Holoceno en el ambiente mediterraneo*, Alicante, pp. 179–209.

Peters, K.E. - Walters, C.C. - Moldowan, J.M. (2010), *Biomarkers and Isotopes in the Environment and Human History*, Cambridge, Cambridge University Press.

Pollard, A.M. - Batt, C.M. - Stern, B. - Young, S.M.M. (2006), *Analytical Chemistry in Archaeology*, Cambridge, Cambridge University Press.

Regert, M. (2010), Investigating the History of Prehistoric Glues by Gas Chromatography-Mass Spectrometry. In Journal of Separation Science, Vol. 27, pp. 244-54.

Regert, M. - Rolando, C. (2002), Identification of Archaeological Adhesives Using Direct Inlet Electron Ionization Mass Spectrometry. In *Analytical Chemistry*, Vol. 74, pp. 965-75.

Regert, M. - Garnier, N. - Decavallas, O. - Cren-Olivé, C. - Rolando, C. (2003), Structural characterization of lipid constituents from natural substances preserved in archaeological environments. In *Measurement Science and Technology*, Vol. 14, pp. 1620-30.

Rohlfs, G. (1966), *Grammatica storica della lingua italiana e dei suoi dialetti*, 3 voll., vol. I, *Fonetica*, Torino, Einaudi [*Historische Grammatik der Italienischen Sprache und ihrer Mundarten*, Bern, A. Francke, 1949]

Sampson, A., Kozlowski, J.K., Kaczanowska, M., Giannouli, B. (2002), The Mesolithic Settlement at Maroulas, Kythnos. In *Mediterraean Archaeology and Archaeometry*, Vol. 2, pp. 45-68.

<www.continuitas.com> = Paleolithic Continuity Paradigm for the Origins of Indo-European Languages: PCP Workgroup's Offical Website.

francesco.benozzo@unibo.it

MOTHER TONGUE
Journal of the Association for the Study of Language in Prehistory • *Issue XV* • *2010*
Fifteenth Anniversary Issue • 1995-2010

The myth of rapid linguistic change III: The evidence from Greek

Jonathan Sherman Morris
São Paulo, Brazil

Parts I and II of this article[1] were an attempt to show that the model for the spread of modern languages into the New World (e.g. English into the United States) in which the language varieties of newly settled areas reflects a specific and demonstrable dialectal inheritance also applied to the spread of Latin across the Western Roman Empire and its subsequent differentiation into its daughter Romance languages, notably French, Italian, Portuguese, Romanian and Spanish.

According to this model, differences between Classical Latin and daughter languages were not due to diachronic change but to borrowings from Italian dialects/Italic languages. Roman military history suggests a plausible correlation between such borrowings and the movements of legions, except in areas settled by a critical mass of the affluent and educated classes, such as Baetica and Provence, which tended to be more linguistically conservative, due to a conscious attempt to uphold a 'correct' linguistic standard.

An analysis of phonological and lexical evidence in these articles also showed that such changes occurred during the early Roman Empire and soon became fossilised due to a dramatic decline in recruitment from Italy and a shift towards local recruitment from hereditary army families. The evidence was thus entirely at odds with conventional models which posit an 'automatic tendency for languages to change'.

While the above model appears to provide a convincing explanation of changes in the Romance languages, it begs the question as to whether this model can be extrapolated to other language groups. This article attempts to carry out a similar analysis for Greek and concludes that it does.

BACKGROUND

By comparison with Latin, which is only sparsely documented before III BCE, knowledge of Greek was extended well into the second millennium BCE by Michael Ventris' 1951-53 demonstration that the Linear B script transcribed an archaic form of Greek. Linear B inscriptions have been found in Crete and on the Greek mainland (Pylos, Mycenae, Thebes and Tiryns) and date from a period of 1375-1200 BCE. The fact that the syllabary seems to have been adopted from Linear A, which was originally used to transcribe another unrelated language (possibly Anatolian) as early as XVIIII BCE, complicates an understanding of the phonology of Mycenaean Greek.

Despite its geographical extent, this language appears to be a homogeneous administrative language with little regional variation. The fact that it innovates in such forms as the 3rd person plural of the present tense with *-o-si*, while Doric *-οντι* retains the reconstructed proto-Greek form **-onti* is nevertheless highly significant, since a) it proves that there were other dialects in existence during the Mycenaean age, b) it shows the specific affinity of Mycenaean Greek with the Attic-Ionic (-ουσι) and Lesbian (-οισι) dialects more than with Doric and

---

[1] "The myth of rapid linguistic change (debunked by the Romance languages)." *Mother Tongue* XII: 41-61 (2008); "The myth of rapid linguistic change: Part II." *Mother Tongue* XIV: 51-72 (2009).

Arcadian (-ονσι), c) **the fact that these features are still present in the Doric dialects in VI-V BCE is in itself an argument for linguistic conservatism.**

The generalised destruction of civilisations at the end of XII BCE led to a 'dark ages' of several centuries, with no written records surviving. By the time these reappeared, at the end of the VIII BCE, the central prestige variety of Greek had given way to a 'democracy of dialects' with each city using its own dialect in communication, à la Schwyzertüütsch.

These dialects can be classified into five major groups: **Ionic-Attic** (with Attic confined to Attica around Athens, and Ionic to Euboea, Chalcidice, Thrace, Chios, Samos and the coast of Asia Minor from Smyrna (not included) down to Miletus, **Arcado-Cypriot** covering the interior of the Peloponnese and Cyprus (strongly suggesting that the turbulence at the end of the Mycenaean era led to extensive migration from the former area to the latter), **Doric**, which extended from Epirus into the Peloponnese (excepting the Arcadian centre), the Argolis (around Corinth and Megara),and Southern Aegean (Crete, Thera - modern Santorini), Melos, Cythera and Rhodes), **Aeolic** (Thessaly and Boeotia, Lesbos and the Coast of Asia Minor from Smyrna to the Hellespont), **Pamphylian**, spoken in coastal Anatolia NW of Cyprus, which shows affinities with Arcado-Cypriot, but became geographically isolated, and Macedonian[2].

It is only to be expected that the turbulence which accompanied the end of the Mycenaean civilisation was accompanied by displacements of peoples. Margalit Finkelberg[3] has analysed the features of the various dialects and attempted to draw up a map of their original distributions based on overlapping features. By her system, Doric was originally confined to Epirus stretching from the Adriatic to the Aegean, while Boeotian was confined to Western Thessaly and Boeotia occupied by Lesbian. Thessalian would originally have been absent from Thessaly but would have occupied a strip of land stretching from the North of Boeotia through Delphi to the Adriatic and down into Elis in the North West of the Peloponnese. The Argolis (Corinth, Argos, Epidauros) would have been occupied by Ionic, as would the island of Euboea, with Arcadian occupying the remainder of the Peloponnese. Analysing her model is beyond the scope of this article, and I merely note that she operates within a conventional Indo-European dating framework and follows Porzig and Risch[4] in arguing that the Greeks arrived in Greece around 1900 BCE speaking a single language which differentiated into two major dialects, a proto-Ionic/Arcado-Cyprian/Lesbian and a proto-West Greek/Boeotian/Thessalian which subsequently splintered even further Against this, we may argue that if Doric could maintain stability of a feature *-οντι* unchanged for 700 years after the collapse of Mycenae, why not for 700 years before or for longer, and who is to say that there were not other highly divergent dialects spoken elsewhere which were nevertheless Greek? Chadwick[5] has argued that there is linguistic evidence in Mycenaean for social stratification, and that the Doric dialects represented the actual speech of an underclass which rose against the aristocracy, hence it is misleading to assume that there were no Doric speakers in Mycenae prior to its downfall. It may thus resemble the "Anglo-Saxon invasion" in which a pre-established mercenary population called on their kinsmen to migrate.

These various dialects were also spread into the Western Mediterranean through the founding of colonies, principally of Doric speakers: Syracuse (734 BCE) from Corinth, Sybaris (720 BCE) and Crotone (710 BCE) from Achaea, Tarentum/Taranto (706 BCE) from Sparta, Cyrene (630 BCE) from Thera), with colonists from Sybaris founding Paestum (around 600

---

[2] Map available at http://en.wikipedia.org/wiki/File:AncientGreekDialects_%28Woodard%29.svg

[3] Finkelberg, M., The Dialect Continuum of Ancient Greek, Harvard Studies in Classical Philology, Vol. 96 (1994), pp. 1-36

[4] W. Porzig, quoted in Finkelberg.

[5] Chadwick, Who were the Dorians?, 1976, quoted in Méndez-Dosuna, J. In Christidis, III.7

BCE), colonists from Cyrene founding Euesperides (present day Benghazi; c. 525 BCE). Ionian speakers also founded colonies in the Western Mediterranean, originating from Phocaea on the West coast of Anatolia: Massilia/Marseille (c. 600 BCE), Antipolis/Antibes (V BCE), Emporion/Empuries (575 BCE) (Spain), as well as from Euboea, who founded Cumae (VIII BCE) and subsequently Parthenope (VIII BCE) and subsequently Neapolis/Naples beside the latter settlement (V BCE).

While the Ionic dialects initially emerged as the prestige dialects of Greek, from the formation of the First Maritime League in 478/477 onwards, Athens assumed a position of cultural and military supremacy, with Athenian officials visiting or residing in many cities around the Aegean and cities subject to its hegemony increasing subject to its courts and many thousands of non-Athenians either serving as rowers in its fleet or resident in Peiraeus, the dominant trading centre in the region. It goes without saying that the fact that in V-IV BCE, Athens had the best writers, dramatists and intellectuals was also enormously important to the prestige of Attic. In this cosmopolitan milieu, this common Attic language (*koinè*) itself underwent a number of modifications, notably due to Ionian influence (e.g. Attic. θάλαττα > Ionic. θάλασσα, or σσ, ρρ > ρσ) with both Athenian and non-Athenian writers from other dialectal backgrounds adopting the *koinè* (e.g. Thucydides) in order to appeal to a wider audience.

In this way, an international dialect akin to American English arose, which differed from pure Attic, and which transcended Athens itself, the influence of which declined from the start of IV BCE. For this reason, it was an essential choice for the official language by Philip II of Macedonia who aspired to raise his backward tribal kingdom with its apparently coarse dialect to the status of a great power.

It is most probably the rapidity with which his son Alexander established his empire that accounts for the dominance of a Greek language which was relatively homogeneous but highly innovative[6] in lexical and semantic terms and which not only resisted the centrifugal force which shattered Latin into many daughter languages but also crushed its rivals.

In areas where a dialectal tradition was entrenched, this process took 3-4 centuries. Hence Doric dialects are recorded until I BCE in Crete, until II CE in Cyrenaica and until III CE in Rhodes, while the prestige of the Phocian dialect of the oracle of Delphi lasted for several centuries and the Aeolic dialect of Lesbos until I CE.[7] Pausanias notes that the Messenians (South West coast of the Peloponnese) still addressed him in their dialect in mid-II CE. Doric characteristics have also survived in isolated dialects (Tsakonian in the Eastern Peloponnese and Griko in Calabria and Puglia (see below), although both show greater or lesser influences from the Koinè).

If anything, the main objection to the Koinè arose towards the end of I BCE in the Atticist literary movement. Its causes are complex, and Browning[8] cites: a reaction by rhetoricians against the floweriness of koinè and the promotion of older literary models, a desire of the educated elite to show their superiority to the masses, and a 'nationalist' reaction to Roman repression under the later Republic which took the form of a nostalgia for the glories of the Athenian age.

The Atticist movement was nevertheless profoundly influential, most notably within the Christian Church, whose earliest writers appear to have written more or less as they spoke, with little concern for pagan grammarians (the gospels are of uneven quality, with John's gospel and the book of Revelation riddled with so many errors and anomalies that Browning doubts that he had a perfect knowledge of Greek)[9]. Starting with St. Luke, however, the register of Christian writings rose, no doubt as a result of a conscious effort to write in an 'elevated' style in order to make Christianity, which had hitherto been a movement of the underclass, more respectable to the upper classes. This tendency persists for the whole of the first millennium, e.g. with late IV CE writers such as John Chrysostom and Gregory of Nazianzus writing in archaic literary language. There is indeed an anecdote that John Chrysostom (347-407 CE) was interrupted by an old woman who complained that she could not understand half of what he was saying, with him obliging her by completing his sermon in the vernacular.

---

[6] For a useful discussion of vocabulary formation, see Browning, R., Mediaeval and Modern Greek, pp. 44-49.

[7] Cf. Bubenik, V. in Christidis (ed.), A History of Ancient Greek, Cambridge University Press, Ch. III.10.

[8] Browning, R., Mediaeval and Modern Greek, pp. 49ff.

The parallels with Latin should be clear here, in that texts from the period are not a faithful mirror of the contemporary language but a deliberate attempt to imitate an archaising literary language, with this veil only slipping when the writer was insufficiently literate to live up to the ideal.

Browning suggests that the major change of the early Byzantine period was the dropping of the initial vowel (e.g. όψαριον > ψάρι, εὕρισκω > βρίσκω). In the Griko section, we nevertheless suggest that this change may well be earlier.

At the same time, as shall be seen from the Swadesh list and the phonological sections, the vast majority of changes from Classical to Modern Greek had already taken place.

SWADESH LIST ANALYSIS

The following table examines all of the entries on a 200-word Swadesh list where lexical replacement has occurred and the Modern Greek forms are not transparently related to their Classical predecessors or have undergone minor phonetic changes (e.g. χειρ > χέρι 'hand', νύξ > νύχτα 'night', πέτομαι > πετάω 'I fly') or have changed from middle voice to active voice or merely added a prefix (e.g. πνέω > αναπνέω 'I breathe'). It aims to analyse the nature of the changes and where possible, assign a likely date to them.

The basic data for Classical Greek was taken from Ringe, Warnow and Taylor[10] and for Modern Greek from Dyen, Kruskal and Black[11] – although in each case the entries were checked against Buck[12] and the online Modern Greek dictionary at http://www.wordreference.com and amended accordingly[13] - Dyen's Modern Greek Swadesh list is particularly misleading.

---

[9] *Ibid.*, p. 53-54.

[10] Ringe, Warnow and Taylor, Indo-European Wordlists, 2002.

[11] Dyen, Kruskal and Black, Comparative Indo-European Database, 1997.

[12] C.D. Buck, A dictionary of selected synonyms in the principal Indo-European languages

[13] In particular, 6 BACK ῥαχις is omitted from the list; 55 FOG ομίχλη is still in use, hence it does not count as lexical replacement; 74 HOLD ἐχω still in use, hence it does not count as a lexical replacement; 76 HUNT was excluded, since κυνηγάω was already used by Homer; 117 RIGHT δίκαιος means 'right' in the sense of 'just' not 'correct'; 120 ROAD οδος still in use; 126 SCRATCH ξύνω in Modern Greek; 143 SMOOTH λείος (i.e. 'not rough' still in use, ομαλός means 'flat'), 146 SOME κανενας means 'any, none'; 149 SQUEEZE ζυπω?, common word (among several) is σφίγγω; 151 STAB (with stick) Dyen gives λαβώνω for Modern Greek – just means 'hurt' – stab with knife would be μαχαιρώνω (unchanged since Classical Greek); 153 STICK Dyen gives ξυλο for Modern Greek 'wooden stick' – this just means 'wood', stick would be κλαδί; 165 THIN Dyen gives 'lianos' for Modern Greek 'thin'? – actual word is λεπτός (survival from Classical Greek); 191 WIND άνεμος still in use in Modern Greek, not replaced by αέρας; 193 WIPE σπογγίζω present in Classical Greek, άπομάσσω means 'wipe clean' – this is just one among a large number of words meaning 'wipe' in one sense or another, e.g. ἀμφιμάομαι, ἀναμάσσω, ἀναψάω, ἀποκορέω, ἀπομύσσω, ἀποσμάω, ἀποψάω, ἀποψήχω, διασμάω, ἐκξέω, τερσαίνω, + many others.

While the choice of some of the words seems extremely ill-advised due to their semantic complexity, my Swadesh list approach at least has the virtue of impartiality.

No.	English	Ancient	Modern	Comments
1	ALL	πᾶς	ὅλοι	B13.13/13.14, D704 - ὅλος/ὁλϝος – Homer 'whole' – many IE cognates, note i.e. cognates for πᾶς much less clear PRESENT IN CLASSICAL GREEK Griko Salentino *olo*
4	ASHES	τέφρα	στάχτη, τέφρα	B1.84 - Byz. from στάκτὴ κονία 'trickling dust' < στάζω 'drop', 'drip'. – used by Constantine Porphyrogenitus (early X CE) in the sense of 'ashes' but already present in LXX (III-II BCE) as 'lye'. τέφρα INTERNAL BORROWING: HELLENISTIC Griko Salentino *statti*, Pontic Σαχτάρ
6	BACK	νῶτον, ῥαχις	πλάτη, ράχη	ῥαχις already present in Plato, Timaeus 77d, also in Sophocles, Euripides, with meaning of 'lower part of back' F554 πλατή – originally, 'broad', then in sense of 'broad-shouldered (Sophocles, Ajax 1223), but note Hittite *paltana* 'shoulder', OChSl *plešte* 'shoulder' PRESENT IN CLASSICAL GREEK
10	BELLY	γαστήρ	κοιλιά	B4.46, D551 κοιλια *(*cavity > intestines) – not in Homer, technical word for 'stomach' in Aristotle, more common in NT than γαστήρ for 'stomach' and 'womb'. INTERNAL BORROWING: HELLENISTIC
12	BIRD	ὄρνις	πουλί	B3.64, A293 <Latin *pullus* 'chicken' EXTERNAL BORROWING: HELLENISTIC Griko Salentino *pikuli*
14	BLACK	μέλας	μαῦρος	B15.65 - in NG, μέλας > μελάνι 'ink', μελανός 'blue black', Lith. *melns* 'black, dirty', Sanskrit *mala-* 'filth' μαῦρος first mentioned in Odyssey 4.824/4.835 to describe a 'ghost' which is hard to see < ἀμαυρος (C69) Russ. *smuryj* 'dark grey', *chmuryj* 'overcast, sullen' INTERNAL BORROWING: POST-HELLENISTIC Griko Salentino *mavvro*
16	BLOW (WIND)-VB.	πνέω	φυσάω	B10.38, D1069 – φύσα (already present in the Illiad, in the sense of 'bellows' – NT 'blow up'; F1055 'bubble'φυσῶ INTERNAL BORROWING: HELLENISTIC Griko Salentino *fisò*

17	BONE	ὀστέον	κόκκαλο	B4.16, C553 - οστό – still in formal use, in use in NT Κόκκαλο < Κόκκαλος ‘kernel, grain, seed’ - INTERNAL BORROWING: POST-HELLENISTIC Griko Salentino *steo*
22	COLD	ψυχρός, κρύος	ψύχος, κρύο	B15.86, D1100 - still ψυχρος in NT, related to ψῦχή ‘breath, spirit’ Ψύχος still used formally to mean ‘cold’ Κρύο means icy in Hesiod, Herodotus. Cognate with OHG *hroso* ‘ice crust’, Latv. *kruvesis* ‘frozen dung’ INTERNAL BORROWING: HELLENISTIC Griko Salentino *tzichrò*
24	COUNT	ἀριθμέω	μετρώ	F139, D130, C665 – μετρέω – measure, estimate (already in Homer (Ion.-Att.)) C104 - ἀριθμέω ‘count’ – already in Homer (Ion.-Att.) INTERNAL BORROWING: CLASSICAL
25	CUT	τέμνω, κόπτω	κόβω	B9.21, D559 - κόπτω – NT ‘cut off’, C553 κοπτω – ‘strike a blow’ – already in Homer. Cognate with Latv. *kapoti* ‘chop up’, Lat. *capus* (capon) NB περικόπτω in sense of reduce B9.22 τέμνω cognate with IE root *tem-* INTERNAL BORROWING: CLASSICAL →HELLENISTIC
28	DIG (vb.)	σκάπτω, ὀρύσσω, λαχαινω	σκάβω, σκαλίζω	B8.22 Σκάπτω > Σκάβω Λαχαινω (Buck says uncommon) – Cognate with Welsh *llain* ‘blade’ Σκαλίζω < σκάλλω (to stir up, hoe) – in Aristotle Mir. 837b22, Herodotus 2.14, PRESENT IN CLASSICAL GREEK /INTERNAL BORROWING: CLASSICAL →HELLENISTIC Griko Salentino *tzechonnò*
29	DIRTY	ῥυπαρός	βρόμικος, λερωμένος	B15.88 - ῥυπαρός < ῥύπος ‘filth, dirt’, cognate with Church Slavonic strupŭ (wound) > pus, scab Βρόμικος < B15.26 Late Hellenistic βρῶμα (stench) ultimately from B5.11 – βιβρώσκω (devour) – used of tooth decay. Λερός, λερωμένος –‘soil’< Classical Greek ὀλερός (impure, turbid) – in Galen < ὀλός ‘cuttlefish ink’, but influenced by θολερός ‘muddy, turbid’. INTERNAL BORROWING: HELLENISTIC Griko Salentino *mukào*
30	DOG	κύον	σκύλος	B3.61 – σκύλαξ ‘whelp, puppy’ – already with meaning of ‘dog’ in Plato’s Republic 375a. Lith *skalikas* – barking dog, Lith *kale* – bitch. INTERNAL BORROWING: CLASSICAL Griko Salentino *sciddho*
37	TO EAT	ἐσθίω	τρώγω	B5.11 – τρώγω (originally ‘gnaw’, ‘nibble’

				[cognate with Latin 'tergere'- rub] – but used by Jesus in 4th Gospel, so must have become respectable by then). NT also uses ἐσθίω INTERNAL BORROWING: HELLENISTIC Griko Salentino *troo*
39	EYE	ὀφθαλμός, ὄμμα	μάτι	B4.21, F387 - In poetry ὄμμα present in plural in the Illiad 3.2.17: ὄμμα > ομματιον (diminutive); ὀφθαλμός still the main form in the NT, but ὄμμα already present. INTERNAL BORROWING: CLASSICAL →HELLENISTIC Griko Salentino *ammai*
42	FAT (SUBSTANCE)	δημός	λίπος	δημός - C263 Albanian *dhjäme* 'fat', also Armenian *tam-* in *tam-uk* 'moist' Δημός had meaning of 'fat from sacrifices' but rapidly fell into disuse & replaced by: Λίπος at an early stage - already in Aristotle (Long. 467a3) with meaning of tallow, lard; Sophocles 'fat'. C616-617 *λιπα* cognate with Skt. *limpáti* [to smear], Lithuanian *lìpti* [be sticky, viscous] INTERNAL BORROWING: CLASSICAL Griko Salentino *lipàro, pachèo*
48	FIRE	πῦρ	φωτιά	B1.81 πῦρ – general Indo-European, Πυρά maintained in the sense of a bonfire. Φωτιά < φῶς , φωτός < Attic contraction of φάος, used in sense of 'light of a fire' in Odyssey 18.317, Aeschylus (D1072) INTERNAL BORROWING: CLASSICAL Griko Salentino *fotia*
49	FISH	ἰχθύς	ψάρι	B3.65 - ὀψάριον– dainty ὄψον – side dish, esp. of fish in Athens – Homer 'cooked food eaten with bread' The ὄψον was a supplementary dish which was always eaten on top of grain or bread. This suggests the comparison with Mycenean O-pi 'with, in addition to'. Taillardat adduces other parallels from Greek for the use of a prefix epi- with verbs for eating, expressing the same sense of a supplementary meal. Alternatively, could mean 'cooked dish' < ἕψω (I boil) – Plato's etymology. C1341. First present in St. John 6.9 with the meaning of 'fish': Ἔστιν παιδάριον ὧδε ὃς ἔχει πέντε ἄρτους κριθίνους καὶ δύο ὀψάρια: "There is a boy here who has five barley loaves and two fish". ἰχθύς used in the rest of the NT. INTERNAL BORROWING: HELLENISTIC
53	FLOWER	ἄνθος	λουλούδι	B8.57 – loan from Albanian *lule* 'flower', perhaps < Latin *lilium*, perhaps in turn

				borrowed from an Eastern Mediterranean language. EXTERNAL BORROWING Griko Salentino *fiuro* (pres. < Italian *fiore*)
59	FRUIT	μῆλον, ὀπώρα	φρούτο	B5.71 – φρούτο - Loan from Italian ὀπώρα – extension of meaning from 'late summer', survives in Modern Greek as ὀπώρικο. EXTERNAL BORROWING
60	TO GIVE	δίδωμι	δίνω	B11.21 - Cypriot optative *δυϝάνοι* INTERNAL BORROWING: HELLENISTIC? Griko Salentino *dio*, Pontic *Δίγω*
61	GOOD	ἀγαθός	καλός	B16.71 - ἀγαθός gradually became less common, with καλός shifting from 'beautiful' (present in Homer < καλϝός) to 'good', as early as NT (D504) – no doubt through association in the phrase 'καλός κ'ἀγαθός' – 'the ideal man' Cf. Sanskrit kalya- 'healthy, vigorous'. ἀγαθός cognate with Germanic 'good/gut'? PRESENT IN CLASSICAL GREEK Griko Salentino *kalò*
62	GRASS	πόα	χορτάρι	B8.51 πόα: Ionic ποίη, Doric ποία < ποίϝα, cognate with Lithuanian *péva* "meadow", Sanskrit *pīvas-* "fat" Χόρτος (D1087) means 'enclosure', 'feeding place for cattle' but already used as 'fodder' in Herodotus (5.16); cognate with Latin *hortus* 'garden' INTERNAL BORROWING: CLASSICAL →HELLENISTIC Griko Salentino *chorto*
63	GREEN	χλωρός	πράσινος	B15.68 sense of 'blue green', 'leek green' present in Classical Greek (Aristotle, Meteor. 372a8, with sense of 'blue green', 'leek green' (Theophrastus IV BCE) < πράσον 'leek', also used for green faction at the circus in Byzantine era. INTERNAL BORROWING: HELLENISTIC →POST-HELLENISTIC Griko Salentino *chiaro*
65	HAIR	τρίχες	μαλλιά	B4.14, NG τρίχα now 'animal bristles', (cognate with Lithuanian *draikas* – 'stretched out'); μαλλιά <Classical Greek μαλλός 'lock of hair' (cognate with Lithuanian *milas*, coarse homespun wool, Armenian *mal-* ram). Semantic development of μαλλιά from 'lock of wool' to 'lock of hair' already in Euripides 'Bacchae' – line 105. INTERNAL BORROWING: CLASSICAL →HELLENISTIC Griko Salentino *maddhi*
72	HERE	ἐνταῦθα, ἔνθαδε	εδώ	ἔνθαδε in Iliad 4.179, Odyssey 16.8. etc. – 'here'.

				INTERNAL BORROWING: HELLENISTIC? Griko Salentino *ettu*
73	TO HIT	τύπτω	χτυπάω	B9.21 - χτυπάω < κτυπέω – 'crash, resound', via 'strike with a resounding blow' – 'bolt of thunder' in Iliad 8.75. Hesiod, Shield of Heracles, 39 'horses struck the earth'. INTERNAL BORROWING: CLASSICAL Griko Salentino *kopanìzzo*
79	ICE	κρύσταλλος	πάγος	B1.77 – κρύσταλλος related to IE root **krus-*, **krus-t* 'hard surface' – e.g. crust. Πάγος present in Classical Greek with the meaning of 'frost', also 'rocky hill', related to πήγνῦμι 'fix, make solid, freeze' INTERNAL BORROWING: CLASSICAL Griko Salentino *citro*
82	TO KILL	ἀποκτείνω	σκοτώνω, φονεύω, θανατώνω	B4.76 - ἀποκτείνω < κτείνω, related to Sanskrit *ks□an* 'to hurt' Σκοτώνω < Classical Greek Σκοτόω 'to make dark' – Buck suggests that this is a Byzantine development, but already with sense of 'stupefy' in Sophocles, Ajax 85. INTERNAL BORROWING: POST-HELLENISTIC Griko Salentino *sfazzo*
83	KNOW (FACTS)	οἶδα	ξέρω	B17.17 - Ξέρω < ἐξευρίσκω, Aorist ἐξηῦρον, with sense of 'discovered, found out' already present in Iliad, 18.184. Loss of initial ἐ in early Byzantine period. INTERNAL BORROWING: HELLENISTIC →POST-HELLENISTIC Griko Salentino *tzero*
88	LEG	σκέλος	πόδι	B4.35 – Liddell & Scott state that πούς was used in the sense of 'leg plus foot' as early as Homer – Iliad 23.772, Odyssey, 4.149, with σκέλος meaning 'leg' but also 'thigh, ham' (related to σκολιός – crooked) – C.978, and cognate with Old English *sceolh* 'what is crooked'. INTERNAL BORROWING: CLASSICAL →HELLENISTIC Griko Salentino *anka*
90	LIE (RECLINE)	κεῖμαι	ξαπλώνω	B12.13 – Modern Greek κειτομαι 'recline, lie' Ξαπλώνω < presumably ἐξαπλόω, ἁπλόω – to stretch out - shift of meaning from 'simple, plain' to 'coat without folds' to 'stretch out' completed relatively late, but we have: ἀγρευθείς είς το πλοιον ἡπλώθη "[the fish] lay stretched out", Babrius 4.5 (II CE) INTERNAL BORROWING: POST-HELLENISTIC
91	LIVER	ἧπαρ	συκώτι	B4.45 Late Greek συκωτός – fed on figs – Galen 6.679 'ἧπαρ συκωτός – 'liver of animal so fatted', Oribasius (IV CE) 2.39.2, Aëtius (VI

				CE) 2.127. INTERNAL BORROWING: HELLENISTIC Griko Salentino *fikato*
98	MOUNTAIN	ὄρος	βουνό	B1.22 βουνό < βουνός – already present in Herodotus (4.199) who describes it as a Cyrenaic word. Also frequent in Syracusan poets (Phrynichus (II CE) 333 cf. Philemo (II BCE) 49.142). D.182 suggests Doric origin. INTERNAL BORROWING: CLASSICAL →HELLENISTIC
102	NEAR	ἐγγύς, πλήσιος	κοντά	B12.43 - κοντός used with meaning of short in Polybius – κοντοπορεία 'shortest way'. Also in Adam 2.20, Hippiatrica, 115 distance' <Homer κοντός (Odyssey 9.487) 'pike, goad' – via sense of 'pike's length' – i.e. 'a short distance' INTERNAL BORROWING: HELLENISTIC
103	NECK	αὐχήν	λαιμός	B4.28 - λαιμός – in Homer e.g. Iliad, 13.388 with sense of 'throat' > neck of bottle > neck – relatively late development. αὐχήν occasionally used with sense of 'throat' – C278 – appears to be cognate with *ang^h-u* 'narrow' – (OHG *ancha*) INTERNAL BORROWING: HELLENISTIC →POST-HELLENISTIC Griko Salentino *sfondilo*
106	NOSE	ῥίς	μύτη	B4.23 - μύτη < μύτις – Long-standing vulgar term for 'snout' by Eustathius (XII CE, Comm. 950; also used by Aristotle to describe ink sac organ of cuttlefish (HA524b15ff). INTERNAL BORROWING: HELLENISTIC Griko Salentino *mitti*
113	TO PULL	ἕλκει	τραβάω	B9.33 – Byzantine usage from ταυρῶ < ταυρίζω 'pull like a steer' ἕλκει – cognate with Latin *sulcus* 'furrow'. INTERNAL BORROWING: POST-HELLENISTIC
114	TO PUSH	ὤθει	πιέζω (press against), σπρώχνω (exert force against)	B10.67 - Πιέζω – classical meaning 'squeeze, pinch', but already 'press hard in battle' – Herodotus, Histories, 63, 'press down', 'weighed down' in Aristophanes, Frogs (30) Σπρώχνω – contraction of εἰσ-προ-ωθέω Present in Classical Greek as προωθέω –' urge, press' – in Plato, Phaedo, 84d. ωθώ still present in Modern Greek with meaning of 'spur, boost' PRESENT IN CLASSICAL GREEK /INTERNAL BORROWING: CLASSICAL
115	TO RAIN	ὕει	βρέχει	B1.75 - ὕει – general IE, cognate with Latin *sūcus 'juice'*, Tocharian A *swase*, B *swese* 'rain', Sanskrit *su-* 'press out, extract'. Βρέχει – quotable from V BCE: Herodotus, Histories 1.189 – in sense of 'get wet'.

				Sense of rain present in Matthew 5.45, LXX Ez. 22.24, from III BCE. Poss. cognate: Latvian *merga* 'light rain' INTERNAL BORROWING: CLASSICAL →HELLENISTIC
116	RED	ἐρυθρός	κόκκινος	B15.66 - ἐρυθρός – General IE – still used technically in Modern Greek: ερυθρός νάνος 'red dwarf' κόκκινος < κόκκος 'seed, grain' – and especially, 'gall of the kermes oak'. Hellenistic Greek – meaning of 'scarlet'- e.g. LXX, Exodus 25.4 (III BCE), Plutarch, Fabius Maximus (I CE) INTERNAL BORROWING: HELLENISTIC Griko Salentino *rodino*
117	RIGHT (CORRECT)	ὄρθος	σωστός (correct), ὄρθος	ὄρθος has classical meaning of 'right', but also of 'safe, prosperous' – e.g. Pindar P.3.53 Σωστός had classical meaning of 'safe', Cognate with Sanskrit *tavīti* 'is strong', Avestan *tavah-* 'might, strength' PRESENT IN CLASSICAL GREEK /INTERNAL BORROWING: HELLENISTIC
122	ROPE	κάλως, σπάρτον, σχοῖνος	σκοινί	B9.19 - Σκοινί < σχοῖνος 'rushes' > 'twist/plait of rushes' – already in Herodotus, Histories 1.66, 5.16 Σπάρτον also originally a kind of rush or broom. INTERNAL BORROWING: CLASSICAL
128	TO SCRATCH	κνάω	ξύνω	Κνάω with sense of scratch, grate, in Homer, Iliad11.639, and sense of 'scratch' skin in Plato, Gorgias, Herodotus. I.e. dual meaning of 'scratch' and 'scrape' already established. ξύνω appears to be a contraction of ἐξυμενίζω (strip off the skin, Dioscorides (I CE) 2.76.1, Archigenes (II CE) in Aëtius 16.48 INTERNAL BORROWING: HELLENISTIC Griko Salentino *tzio*
130	TO SEE	εἶδον (see), ὁράω (see, behold, look on), δέρκομαι (look, see), ὄψομαι (see, behold, look on)	βλέπω	B15.51 - Βλέπω – in Classical Greek, with meaning of 'look at' – Demosthenes 25.98, Aristophanes, Frogs, 67; Sophocles, Oedipus Tyrannus, 302; Aeschylus, Seven against Thebes, 498 Ειδα survives as the past tense of βλέπω INTERNAL BORROWING: CLASSICAL Griko Salentino *vlepo, toro*
133	SHARP (KNIFE)	ὀξύς	κοφτερός	B15.78 - Κοφτερός < κόπτω (to cut) – in sense of 'cutting'. ὀξύς still used in Modern Greek with the meaning of 'acute, intense, focussed'. INTERNAL BORROWING: CLASSICAL →HELLENISTIC
134	SHORT	βραχύς	κοντός	B12.59 - Βραχύς still exists in Modern Greek,

				with meaning of 'brief'. For κοντός, see 102 NEAR. INTERNAL BORROWING: HELLENISTIC
135	TO SING	ἀείδω	τραγουδώ	B18.12 - Τραγουδώ < τραγῳδέω Classical Greek 'act, declaim'. 'Goat singing' which started as imitating the braying of goats in a procession to honour the god Dionysos, was transformed into the chanting of the Greek chorus in V BCE drama. INTERNAL BORROWING: CLASSICAL →HELLENISTIC Griko Salentino *kantalò, travudò*
137	SKIN (OF PERSON)	χρώς, δέρμα	δέρμα	B4.12 - Χρώς – specifically of Human skin and mainly poetic – also 'complexion, colour' – related to χραύω 'scratch, graze) – extension of IE **gher-*, cf. Sanskrit *ghr□s□* 'to rub' Δέρμα – present since Homer (e.g. Iliad, 9.548), originally more with meaning of 'hide', related to δέρω 'I flay', cognates: Lithuanian *dirti*, etc. 'flay, skin', English 'tear'. PRESENT IN CLASSICAL GREEK Griko Salentino *derma*
139	TO SLEEP	καθεύδω	κοιμάω	B4.61 - Καθεύδω, εὕδω – Buck says etymology doubtful. Κοιμάω – 'lie down to sleep' – already with meaning of 'rest/sleep' e.g. in Homer, Odyssey 12.372, Sophocles, Electra 504. Cognate with Sanskrit *çī-* 'lie, rest', Avestan *sāy-* 'rest' PRESENT IN CLASSICAL GREEK Griko Salentino *plonno*, Calabrian Greek *ciumáme*
141	TO SMELL (PERCEIVE ODOUR)	ὀσφραίνομαι (to perceive odour), ὄζω (be fragrant with)	ὀσφραίνομαι, μυρίζω	B15.21/15.22 - ὀσφραίνομαι still in use in Modern Greek for 'to smell (an object)' - related to ὀσμή 'smell, odour' –General IE (e.g. odour, Armenian *hot*, Lithuanian *uosti* – appears to be a double compound together with φρη- , cognate with Sanskrit *ghrā-* 'smell' Μυρίζω – Buck states compound of μύρον 'perfume, unguent' and ὄζω. Classical Greek 'to anoint' whence, passive 'be fragrant with' (Heliodorus, 10.26 (III CE)) – at a later stage, appears to have acquired meaning of 'to smell (an object)' in addition to 'emitting an odour'. INTERNAL BORROWING: HELLENISTIC Griko Salentino *mirizzo*
146	SOME	ἔνιοι	μερικοί	Μερικοί < μέρος 'part, portion'- appears to be general IE – e.g. Latin *merēre* 'receive as a portion or price', evidently meaning 'part of'. First attestations of ἔνιοι are relatively late, first appearing in Ionic writers (e.g. Herodotus) INTERNAL BORROWING: CLASSICAL →HELLENISTIC
149	TO SQUEEZE	πιέζω	σφίγγω	Πιέζω – in Homer, Odyssey 12.174 – in sense of 'knead together' – still present in Modern

				Greek with sense of 'pressure, push'. Σφίγγω already in Plato, Timaeus 58A, with sense of 'bind together' INTERNAL BORROWING: CLASSICAL →HELLENISTIC
153	STICK (OF WOOD)	ῥάβδος, βακτηρία	κλαδί	ῥάβδος – 'rod, wand, shoot of trees, limed twig for catching birds. E.g. Circe's magic wand in Odyssey, 10.238 or 'fishing rod' in Odyssey 12.251 Βακτηρία – in sense of 'staff, cane' – Also Latin *baculum*, Old Irish *bacc* 'crooked/curved stick'. Κλαδί < κλάδος 'branch, twig' – broken off and offered by suppliants –Herodotus, Histories 7.19 'bough'. PRESENT IN CLASSICAL GREEK Griko Salentino *raddì* 'stick for fire' < ῥάβδος
155	STRAIGHT	εὐθύς,	εὐθύς, ἴσιος	ἴσιος < ἴσος 'equal, alike' – already in sense of 'level ground' in Xenophon, Anabasis 4.6.18, already in sense of 'fair, impartial' in Plato, Protagoras 337a. INTERNAL BORROWING: HELLENISTIC
156	TO SUCK	θηλάζω	ῥουφάω, βυζαίνω, θηλάζω	B5.16 - Θηλάζω 'suckle' –related to IE root **dhēi* Ρουφάω < ῥοφέω 'swallow, gulp down' C 978 Βυζαίνω < Βυζάνω (Byzantine) < Βυζίον 'large women's breast' – Late Greek INTERNAL BORROWING: HELLENISTIC →POST-HELLENISTIC
158	TO SWELL	οἰδέω	φουσκώνω	Φουσκώνω derived from Φουσκα 'bladder' – evident formation from φυσόομαι INTERNAL BORROWING: HELLENISTIC →POST-HELLENISTIC Griko Salentino *priscio*
159	TO SWIM	νέω, νήχω	κολυμπάω	B10.35 - Κολυμπάω < κολυμβάω 'dive into sea' – present in Plato, Protagoras, 350a. Buck states 'already Hellenistic for swim' – probably derived from 'diving bird' INTERNAL BORROWING: HELLENISTIC Griko Salentino *narèo* (< Latin)
164	THICK (Dimensions)	παχύς (thick, stout) πυκνός (close, compact)	χοντρός, παχύς	B12.63/12.64 - παχύς remains in Modern Greek, but also Χοντρός < Classical Greek χονδρός 'granular, coarse' – first for 'salt', but then for 'hair' – Pseudo-Callisthenes 2.33 (III CE) Both words of IE origin: παχύς < bhengh- χονδρός cognate with English 'grind' INTERNAL BORROWING: HELLENISTIC Griko Salentino *chrondò*
166	TO THINK (Reflect)	φροντίζω, φρονέω, ἐννοέω, νομίζω	νομίζω σκέφτομαι θαρρω	B17.14/B17.15 - Σκέφτομαι (modern Greek – 'analyse, be concerned with' < σκέπτομαι 'take a view, look about' - already with sense of 'consider, examine' in Sophocles, Ajax 1028 –

				‘thought’ in Plato, Phaedo, 95e Νομίζω (Modern Greek ‘intend’, ‘be of the opinion) < νομίζω ‘consider’ in Herodotus, Histories 2.2 Θαρρω (Modern Greek ‘reckon’ < Classical Greek θαρρέω (Attic), θαρσέω - original ‘dare, have courage’ – cognate with Germanic ‘dare’, but already with meaning of ‘believe confidently in’ in Sophocles, Antigone 668 (same semantic development as English ‘I dare say’). INTERNAL BORROWING: CLASSICAL →HELLENISTIC Griko Salentino *pentzeo* (< Latin, Italian)
170	TO THROW	βάλλω, ῥίπτω	ρίχνω	B10.25 - Both βάλλω (throw, cast), ῥίπτω (fling, hurl) present in Homer. For ῥίπτω, Buck states derived forms ῥίφτω, ῥίχτω – both words with sold IE etymologies: βάλλω cognate with OE *quellan* ‘gush forth’, ῥίπτω with OE *weorpan*, German *werfen.* INTERNAL BORROWING: CLASSICAL →HELLENISTIC Griko Salentino *pelò* (< βάλλω)
177	VOMIT	ἐμέω	ξερνάω, κανω εμετό	Ξερνάω < ἐξεράω ‘disgorge’ in Hippocrates, De captis vulneribus, Part 15 (V BCE) PRESENT IN CLASSICAL GREEK Griko Salentino *tzerò* (< βάλλω)
179	WARM (WEATHER)	θέρμος	ζεστός	B15.85 - Ζεστός < ζέω ‘to boil’ – hence ‘boiling’ – Strabo 12.8.17 ‘boiling hot water’, already ‘hot’ in book of Revelation 3.15 INTERNAL BORROWING: HELLENISTIC Griko Salentino *termò*
181	WATER	ὕδωρ	νερό	B1.31 - ὕδωρ – IE, cognate with English *water*, Hittite *watar*. νερό < νεαρός ‘fresh’ (as in ‘fresh water’) – already νηρόν in Phrynichus: νηρόν ὕδωρ (early V BCE). INTERNAL BORROWING: CLASSICAL →HELLENISTIC Griko Salentino *neró*
187	WHITE	λεῦκος	άσπρος	B15.64 - Ἄσπρος – C122 - borrowing from Latin *asper* ‘rough’ – used to refer to newly minted coins (since the relief of the coin was palpable) > Greek meaning ‘shiny, new coin. By extension Pseudo-Galen 14.560 – ‘white of an egg’ – unknown date but at least CE III. EXTERNAL BORROWING: POST-HELLENISTIC Griko Salentino *aspro*
188	WHO	τίς	ποιος	ποιος < Classical ποῖος ‘of what sort (of person)?’ – Already in Aristophanes, Thesmophoriozusae, 874 ‘Proteus who?/Which Proteus?’ – used scornfully like English ‘And who pray might he be?’

				INTERNAL BORROWING: HELLENISTIC →POST-HELLENISTIC Griko Salentino *is*
189	WIDE	εὐρύς	φαρδύς	B12.61 - εὐρύς – Modern 'broad, spacious' < IE. E.g. Sanskrit *uru-* 'breadth' φαρδύς – etymology unclear. Poss. loan from Italian *fardo* 'burden' or Arabic *farda* 'bundle of goods' or from εὐφραδής (Hatzidakis' suggestion). UNKNOWN
196	WOODS	ὕλη	δάσος	B1.41 - Classical Greek δάσος 'thicket' < δασύς 'hairy, thick' – cognate with Latin *densus* In Classical Greek, ὕλη could mean all of 'forest', 'copse' and 'lumber'. INTERNAL BORROWING: CLASSICAL →HELLENISTIC Griko Salentino *daso*
199	YEAR	ἔτος, ἐνιαυτός	χρόνος, ἔτος	B14.73 - Χρόνος – first used to mean a year in Rhamnus (I BCE) , Classical Greek Χρόνος 'time' Ἔτος still used in literary Modern Greek, and technical terms, e.g. νέο ἔτος 'new year' ἐνιαυτός 'anniversary' – still used by Flavius Josephus, Antiquitates Judaicae (94 CE) INTERNAL BORROWING: HELLENISTIC Griko Salentino *chrono*
200	YELLOW	ξανθός	κίτρινος	B15.69 - Ξανθός in Homer, Odyssey 13.366 – 'flaxen hair' – perhaps cognate with Latin *cānus* 'grey, hoary' Κίτρινος < κίτρον 'citron fruit' 'Of a citron yellow' – Pmasp.6ii82 (VI CE), Herodianus (III CE) Epim.179 'Of a yellowish salve', Paulus Aegineta (VII CE), 7.18 INTERNAL BORROWING: HELLENISTIC →POST-HELLENISTIC Griko Salentino *kitrino*

Lexical data:
A = N. P. Andriotis, Etimologiko Leksiko tis koinis neoellenikis
B = C.D. Buck, A dictionary of selected synonyms in the principal Indo-European languages
Be = Robert Beekes, Greek Etymological Dictionary, Brill
C = Chantraine, Pierre – Dictionnaire Étymologique de la langue grecque
D = F.W. Danker, A Greek-English lexicon of the NT and other early Christian literature
Also drawn from:
Perseus digital library - http://www.perseus.tufts.edu/hopper/, with extensive citations from Liddell & Scott – Greek-English Lexicon
Griko - http://www.greciasalentina.org/index.htm
Classical texts:
LXX = Septuagint, Greek translation of the Old Testament, probably 3rd C. BCE

Every word evidently tells a story and the story here is usually one of gradual semantic change starting in the Classical period and ending by the early Roman Empire at the latest.

Merely to select two illustrative (and parallel) examples, where our knowledge of ancient culinary practices can shed light on dating, we have:

ὀψάριον < ὄψον. This word makes its journey from 'dainty, side dish' in the Classical period to 'fish' in the Gospel of St. John (around 90 CE). Presumably, John, whose defective Greek has been noted, was merely using the common word rather than the higher register **ἰχθύς** deployed by the other evangelists. It is nevertheless clear that this 'side dish' already had a distinctly fishy connotation in an Athenian context as early as Xenophon (V BCE), since he recalls a Socratic dialogue discussing the '*opsophagoi*' – gourmets/gluttons who offended against the Greek notion of frugality by eating too much rich 'side dish' and not enough *sitos* (cereal), indeed, eating fish was doubly censurable, since it was unfit for the gods and therefore 'impure' food. The Greeks appear to have had a similar view of eating to the traditional Chinese in that spicy relishes or side dishes merely served to facilitate the ingestion of large quantities of a bland staple and it was actually unhealthy/immoral to eat them by themselves. Classical Athens was nevertheless noted for its *opsophagoi* who actually revelled in their immoderate consumption of fish and even trained like athletes in eating it piping hot (hence clearing the platter before their fellow diners had had a chance to indulge their appetites). We thus have the IV BCE comic poet Antiphanes mentioning Phoikonides and dearest Taureas, "two old *opsophagoi*, such men as gobble down fish slices in the agora" and his contemporary Axionicus, whose play 'The Euripides fanatic' contains the line "Another fish, confident in its great size, has Glaukos caught in the deep net and brought to these parts as *sitos* for *opsophagoi*".[14]

ἧπαρ > συκώτι The second parallel example is the semantic transition of 'fed with figs' to 'liver'. 'ἧπαρ συκωτός is entirely parallel to *jecur ficatus* in Latin, but is this a Latin borrowing into Greek or vice versa? Force-feeding geese to grow abnormally large livers goes back to Egyptian times and according to Athenaeus (III BCE), Agesilaeus, King of Sparta made a present of fat geese to the Egyptians around 400 BCE. Athenaeus points out that the Greeks were experts at fattening geese with 'wheat pounded in water', but when did the fig-based method arise? Cato (II BCE)[15] suggests a similar method using pellets of flour or barley meal, so can we infer that at this point, the Romans had not yet heard of using figs? Conversely, we have Apicius, who invented "a method…for treating the liver of a sow in a similar manner to that of a goose. It is force fed with dried figs…" (Pliny the Younger, Natural History. X.-xxvii)[16]. Note that the method for feeding the sow is similar to a (presumably pre-existing) method for fattening geese and since Apicius is said to have lived during the reign of Tiberius, the method for fattening geese is presumably older. Since Faas points out that much of Roman luxury cuisine was of Greek origin and that geese fattening was a speciality of Egypt, the evidence points to Alexandria and indeed, it is reported that Ptolemy II (284-246 BCE) ordered his Minister of Finance, Apollonios, to import fig trees from "Libya, Chios or Lydia"[17], with Lydia famous for exporting bunches of dried figs. This practice thus appears to date from late III-I BCE.

While it is not possible to date all of the semantic changes listed in the preceding table precisely, a 'statistical analysis' is nevertheless revealing. As shall be seen, most of the lexical replacements are the result of internal borrowing (i.e. where a word already in the language at an earlier stage undergoes a shift in meaning). I have attempted to date such changes based on citations of classical authors.

---

[14] Davidson, J., Opsophagia, Ch. 15 of Wilkins, Harvey, Dobson (Eds.), Food in Antiquity.

[15] Toussaint-Samat, M., History of Food, p. 425.

[16] Haas, P., Around the Roman Table, p. 253.

[17] Ballet, P., La vie quotidienne à Alexandrie, p. 191.

- Where two words for the same meaning existed side by side in Classical Greek and one has disappeared while the other has survived, this is classified as "PRESENT IN CLASSICAL GREEK". E.g. Ξερνάω 'to vomit'
- Where evidence for a shift in meaning of a word is already present and predominant in the classical period (i.e. a Homeric word has been replaced by the 5th century BCE), the word is classified as "INTERNAL BORROWING: CLASSICAL". E.g. φωτιά replacing Homeric πῦρ 'fire'.
- Where there is isolated evidence for the use of a word with a new meaning during the Classical period, but this new meaning has only become consolidated during the Hellenistic period, the word is classified as "INTERNAL BORROWING: CLASSICAL → HELLENISTIC". E.g. μαλλιά replacing τρίχες – first attested as a 'lock of hair' in Euripides, but wholesale adoption for 'hair' is later.
- Where there is no evidence for the use of a word with a new meaning during the Classical period, but clear evidence during the Hellenistic period, the word is classified as "INTERNAL BORROWING: HELLENISTIC". E.g. Ψάρι replacing ἰχθύς 'fish' – the internal borrowing first appearing in Hellenistic times.
- Where there is isolated evidence for the use of a word with a new meaning during the Hellenistic period, but clear evidence during the POST-HELLENISTIC period, or where a meaning has shifted during the Hellenic period, and has shifted again to the modern meaning during the POST-HELLENISTIC period, the word is classified as "INTERNAL BORROWING: HELLENISTIC → POST-HELLENISTIC". E.g. πράσινος replacing χλωρός 'green' – already with meaning of 'leek green' in IV BCE, but only systematically adopted for 'green' in Roman times.
- Where there is no evidence for the use of a word before the POST-HELLENISTIC period, the word is classified as "INTERNAL BORROWING: POST-HELLENISTIC". Σκοτώνω 'die' had the meaning of 'stupefy' in Classical times, but there is no indication of the meaning 'die' until post-Hellenistic times.
- Words which are not of Greek origin are termed "EXTERNAL BORROWINGS".

Of the 200 lexical items on the Swadesh list, XXX involve some form of lexical replacement, with these classified in the above categories as follows:

PRESENT IN CLASSICAL GREEK	5
INTERNAL BORROWING: CLASSICAL	10
INTERNAL BORROWING: CLASSICAL → HELLENISTIC	15
INTERNAL BORROWING: HELLENISTIC	23
INTERNAL BORROWING: HELLENISTIC → POST-HELLENISTIC	7
INTERNAL BORROWING: POST-HELLENISTIC	6
EXTERNAL BORROWING	3
UNKNOWN	1
TOTAL LEXICAL REPLACEMENTS	**70**
SURVIVALS FROM CLASSICAL GREEK	130
TOTAL	**200**

While there is an evident element of subjectivity in allocating words between categories, two overall points should be clear from the above figures – a) external borrowing is of extremely limited importance as a motor of linguistic change, accounting for only 3 out of 69 lexical replacements, b) 53 out of 70 lexical replacements on the Swadesh list can be explained as internal borrowings which had occurred before the end of the Hellenistic period or the words in question already had their modern meanings in Classical Greek, since which time, there has been very little lexical change.

It should also be pointed out that if anything, the above categories understate the true age of internal borrowings, since by definition, a meaning has to exist in the spoken language before it can appear in the written language. Furthermore, Greek speakers have as a rule been exceptionally self-conscious of their own linguistic heritage – as mentioned above, the Atticist movement, which arose during the 1st century BCE, insisted on reviving Attic forms from half a millennium earlier, and received widespread support, including from the writers of the gospels.

While the written evidence already shows that lexical replacement on the Swadesh list is overwhelmingly due to internal borrowing during the Classical and Hellenistic periods, it is not unlikely that many of the changes attributed to the POST-HELLENISTIC era actually date back to the Hellenistic period. Circumstantial evidence for this is provided by an analysis of the Greek dialects of Southern Italy, now restricted to two small areas (around the town of Bova at the Southern tip of Calabria and in the Salento region of Puglia (Griko Salentino).

GRIKO

Against a consensus that the Greek-speaking communities of Calabria and Puglia may only go back to Byzantine times, Rohlfs[18] argued that these areas were survivals of Greek speakers dating back at least to Roman, if not to Classical times, both on account of their preservation of archaic Doric features[19] and the survival in Salentino of Classical *nt*, *mb*, *nk* (*pente* v. Modern Greek *pende*, *vrontí* v. Modern Greek *vrondí*, *ampeli* v. Modern Greek *ambèli)* or e.g. *dz* (in *rídza* 'root', *dzoí* 'life').

Rohlfs also argued that if such communities represented intrusions of Greek-speaking migrants under later Byzantine rule in IX and X CE, then why did the Byzantines fail so utterly to impose Greek on other evidently non-Greek areas under their rule during the same period (e.g. Ravenna (540-752), Bari (871-1078) and Sardinia (VI-VIII CE)? The historical record and an analysis of place names also shows that these communities were remnants of a much larger area which had spoken Greek since the time of Magna Graecia, covering the South of Calabria, NW Sicily and an area of the Salento three times as large, in which Greek was the language of official public documents almost until the end of XIII CE, with the Orthodox rite maintained in use in both areas well into Mediaeval times and possibly until XVI-XVII CE. Furthermore, while the islands of Albanian and Southern Slavonic dating back to Mediaeval or later times in Puglia are clearly isolates in an Italian-speaking milieu, the Greek-speaking areas show geographical continuity.

Two examples cited by Rohlfs suffice to show that the Salentino and Calabrian dialects are similar to each other, but divergent from Modern Greek.

1) The tongue has no bones and breaks bones.
Modern Greek: Ἡ γλῶσσα κοκάλα δέν ἔχει κάι κοκάλα τσακίζει
Calabrian: I glòssa stèa δen èχi ce stèa klánni.

---

[18] Gerhard Rohlfs, Greek Remnants in Southern Italy, The Classical Journal, Vol. 62, No. 4, pp. 164-169 (Jan 1967).

[19] Cited in Fanciullo, F., Fra Oriente e Occidente, ETS, Pisa 1996, p. 148 – 15 due to Rohlfs with another 8 to Karanastasis, with 21 out of 23 exclusive to Calabrian Greek and only 1 to Salentino Greek.

Salentino: I glòssa en èχi stèata ce stèata iklánni.

2) He who has said yes cannot say no.
Modern Greek: Ὅποιος εἶπε ναί δέν μπορεῖ νά πῆ ὄχι
Calabrian: Tis ipe manè, δe ssònni pi δè.
Salentino: Tis ipe úmme, ‘e ssòdzi pi dèngje.

Rohlfs nevertheless admitted that while the Calabrian dialect showed greater continuity with the Doric-speaking colonies of Magna Graecia, it was only ‘probable’ that the same was true of the Salentino, which lay outside the catchment area of the Doric-speaking colony of Taranto and hence might instead represent the language of communities which were originally Messapic speaking but which adopted Greek or became bilingual on grounds of expediency sometime during the Imperial Roman period. This is known to have been the case of the neighbouring Bruttii in Calabria, who were native Oscan speakers, but who used Greek for trade and cultural activities. Fanciullo [20] has argued for this distinction between Doric Calabria and later Doric/Koinè Salentino due to the lack of evidence for extensive hellenisation of the countryside in Puglia. At the same time, he argues that on the basis of the latinisation of local Greek place names in the interior of Puglia (and hence outside the orbit of Taranto), the dating of this adoption of Greek is consistent with the Roman rather than the Byzantine era.

The fact remains, however, that both varieties retain archaic features of Classical which are hard to explain in a post-Roman context, as well as borrowings which are clearly from Latin but which are anachronistic in a Dark Ages context.

Assuming, therefore, that the Salentino dialect is pre-Byzantine, then it follows that many of the changes in the Swadesh list labelled as Byzantine on the basis of extant classical texts are considerably older. (e.g. ξέρω – *tzero*, εδώ – *ettu*, άσπρος – *aspro*, μαῦρος – *mavvro*).

In addition, we find forms *kúo* < ἀκούω (I hear), *gro* < ὑγρος (wet), *steo* < ὀστέον (bone) in Griko which are more innovative than Modern Greek, which retains the initial vowel. In the light of the above discussion, it seems anachronistic to regard these forms as Byzantine imports of which there is no trace in mainland Greek and much more reasonable to assume that they are much older (probably to early imperial times) and represent survivals in a peripheral part of the Byzantine empire which were subject to correction at the centre (this is analogous to the example of Latin PLUVIUM > French *pluie*, but Portuguese *chuva*, which can be dated to a dialectal borrowing in I BCE- I CE).

TSAKONIAN

Tsakonian is a highly divergent dialect of Greek spoken in the Eastern Peloponnese, inland from the Argolic Gulf. I mention it *en passant* since it forms an interesting case of a language with some highly conservative phonological features[21] (e.g. maintaining the Doric *a* in αμέρα for ‘day’ against Modern Greek ημέρα, or μάτη (mother) as well as retention of ύ: σούκα ‘figs’ v. Modern Greek σύκα [sika], γουναίκα (woman) as well as lexical ones: E.g. πάšε (much, many) < πᾶς (all) [v. Modern Greek πολύ], ύο (water) < ὕδωρ [v. Modern Greek νερό], άντε < άρτος (bread) [v. Modern Greek ψωμί], κούε < κύον (dog) [v. Modern Greek σκύλος], όνε < όνος (donkey) [v. Modern Greek γάιδαρος], λευκό < λευκός (white) [v. Modern Greek άσπρος], σάτη < θυγάτηρ (daughter), [v. Modern Greek κόρη].

---

[20] Fanciullo, F., op. cit., p. 148.

[21] As well as extensive palatalisation: /t/ > [c], /k/ > [tɕ], /m/ > [n], /r/ > [ʒ], /p/ > [c], /θ/ > /s/, and the reduction of clusters to aspirated or prenasalised stops and affricates, e.g. /ðr, θr, tr/ > /tʃ/, /sp, st, sθ, sk, sx/ > /p^{h}, t^{h}, t^{h}, k^{h}, k^{h}/, /kt, xθ/ > /t^{h}/ and loss of medial consonants /ɣ, ð/ between vowels: πόδας, τράγος /poðas, traɣos/ > πούα, τσχάο /pua, tʃao/ Cf. http://en.wikipedia.org/wiki/Tsakonian_language and C.A. Scutt, the Tsakonian Dialect, I, *Annual of the British School at Athens,* Vol. 19 (1912/13), pp. 133-173.

At the same time, Tsakonian has undergone extreme morphological simplification, with minimal case inflection (some nouns have no cases, others a single Nominative/Accusative form and a Genitive form) and the formation of the present and imperfect indicative with participles, like English but unlike the rest of Greek (e.g. ενεί αού, έμα αού "I am listening, I was listening"). It thus represents an excellent example of lexical and phonological conservatism and a counterexample to the argument that it is better to date languages on the basis of morphological changes than lexical ones.

PHONOLOGICAL CHANGE

The 'Myth of linguistic change' I and II made the point that most changes between Latin and the Romance languages were invisible in the written record, since there was no necessary link between the spoken vernacular and the literary language. Indeed, the relationship between the two is inversely proportional to the degree of education of the writer, so that we frequently need to rely on the semiliterate to 'spill the beans' on the true state of the spoken language.

Furthermore, the opacity of written evidence may conceal the fact that many phonological changes should be largely contemporary with lexical replacement, since if 'changes' are not really internal changes per se but the adoption of pre-existing dialectal forms as a standard, then it follows that not only are all of the dialectal features available for adoption at the same time but also that this situation militates against the adoption of one dialectal feature at a given point in time and then the adoption of another feature from the same dialect at a later date. This is evidently not to deny wholesale the possibility of later phonological change (e.g. abandonment of final vowel in French under the influence of Frankish in V-VII CE), but it is definitely far less significant than has conventionally been assumed.

Even taking the written evidence at face value, however, we indeed find that most of the major phonological changes between Classical and Modern Greek had already occurred well before the end of the Hellenistic period. Without any claim to exhaustiveness, we examine the most salient ones[22]:

1. Ει merging with ι

The Diphthong *ει* had already merged with *ι* in V BCE in regions such as Argos or in IV BCE in Corinth, as well as in Boeotia in early IV BCE.[23] (Allen, *op. cit.*, page 74).

2. Αι > [ɛː]

Diphthong *αι* was probably monophthongised at first as [ɛː]. This value is attested in Boeotian, which is written αε in V BCE and *η* in early IV BCE. Lejeune (1972:§242)[24] nevertheless notes that this development was several centuries in advance of the other Greek dialects, only appearing in Egyptian Greek in II BCE,

3. οι> ι[25]

---

[22] Wikipedia article on Koine Greek phonology.

[23] Allen, Vox Graeca, p. 74.

[24] Lejeune, M., Phonétique historique du mycénien et du grec ancien, Paris, 1972.

[25] *Ibid.*, §243.

Written οε in Boeotian as early as V BCE, then as *υ* from III BCE. Boeotian is again early relative to other dialects but the diphthong has clearly disappeared (i.e. Boeotian τυς αλλυς against Attic τοις αλλοις), with Lejeune suggesting a transitional stage [ö] and then [y]. The diphthong *οι* must have kept a diphthongal value until Roman times, at least in learned language, as it is transcribed as *oe* in Latin. Further evidence of monophthongisation is found from early I BCE onwards in Egyptian Greek, as well as in early II CE in Palestine.

4. αυ, ευ > αβ, εβ

Once again, the first signs of this transformation occur in Boeotian dialect, in which graphic confusions arise between *-αβδ-* and *–αυδ-*, *-εβδ-* and *-ευδ-*[26], from III BCE onwards, with confusion of *αυ* and *ευ* with *αβ* and *εβ* found as early as the beginning of I CE in Egyptian papyri, attesting to a fricative pronunciation. It is unlikely, however, that this fricative pronunciation was generalised at once; for instance, Jewish catacombs inscriptions still show a diphthongal value in II-III CE.

5. u > i

Koine Greek adopted the pronunciation [y] of Ionic-Attic for the vowel *υ*. Confusion of *υ* with *ι* appears in Egyptian papyri in II CE, suggesting a pronunciation of [i], but this is probably a regional trait. Transcriptions into Gothic and, to some extent, Armenian suggest that *υ* still retained a [y] pronunciation, and the transition to [i] in mainstream Greek is thought to have taken place in IX CE.

6. b > v, g > γ, d > ð.

These changes are evidently difficult to detect as they do not entail a change in spelling except for certain dialectal transcriptions: e.g. Corinthian V BCE αμοιϝᾱν (Attic: ἀμοιβήν) or Boeotian III BCE ευδομον (Attic ἕβδομον). Petrounias[27] nevertheless sees these as Hellenistic developments, starting with g > γ as early as IV BCE with the further γ > j before a front vowel starting around the same time, even if this does not seem to have been a standard pronunciation. He points out that these stops did not change after a nasal consonant, so during the Hellenistic period, δένδρον would have been pronounced [ðendron].

7. p^h > f, t^h > θ

Evidence suggests that these are relatively late post-Hellenic developments, on account of transcriptions into Latin in II BCE retaining the older pronunciation, e.g. ampulla < ἀμφορεύς, purpura < πόρφυρα, but Filippus by II CE. *θ* present in Palestine in II CE, *f* in Jewish catacombs in II-III CE.

What is interesting is the fact that 1 out of 7 of these major changes was already present in Ancient Greek, while 5 out of 7 appear to originate in Boeotia and only one is arguably post-Hellenic. This is entirely consistent with the model of linguistic conservatism observed in Latin and provides further circumstantial evidence that phonological innovation is not so much change *ex nihilo*, but the adoption of previously existing dialectal forms.

This Boeotian origin of most of the phonological changes which differentiate Modern Greek from Ancient Greek is intriguing and the explanation for this is not yet clear to me, although attempts to argue away such changes as parallel developments seem thoroughly unconvincing and the fact that there are so many innovations deriving from a single dialect hardly seems to be a random occurrence. The spread of the Koinè into Asia Minor, the Levant and Egypt evidently coincides with the rise of the Macedonian empire and one of the early actions of Alexander was to destroy the rebellious city of Thebes (the main city in Boeotia) in 335 BCE, with the sale of an alleged 30,000 of its citizens into slavery. According to Plutarch, there was a general feeling of sympathy at their appalling fate, notably in Athens, where the survivors were received with kindness. From this point onwards, the remaining areas of Boeotia were generally loyal to Macedon. Could the Thebans have been sold into slavery en bloc in Piraeus, the main slave market of the day, and formed a dominant component of the local population, influencing the pronunciation of the koinè there, à la Cockney or working-class Parisian French.

---

[26] *Ibid.*, §243.

[27] Petrounias, E.B., Development in pronunciation during the Hellenistic period, in Christidis, IV.6.

CONCLUSION

The above analysis conclusively shows that in similar fashion to the modern Romance languages, the basic motor for lexical change is internal borrowing and that the main phonological changes are dialectal in origin (Boeotian). Furthermore, there is no evidence of a 'natural' process of continuous change, since the basic phonology and vocabulary of Modern Greek were largely defined well before the end of the Roman Empire, with the evidence from Griko suggesting that changes commonly dated to Byzantine times are centuries older. On account of these points, I conclude that the model developed for the transition from Latin to Romance is also valid for Greek.

São Paulo, April 2011.

MOTHER TONGUE

Journal of the Association for the Study of Language in Prehistory • *Issue XV* • *2010*

Fifteenth Anniversary Issue • 1995-2010

Yeniseian Numerals

Václav Blažek
Masaryk University

The purpose of the present contribution is to summarize all relevant forms of numerals in the Yeniseian languages, their internal analysis, and external comparisons in the perspective of the Sino-Caucasian macro-family.

	1	**2**	**3**	**4**	**5**	**6_1**	**6_2**
Imbak Ket	*qūś*	*ɨ̄n / ɨn*	*dōŋ / do'ŋ*	*śīk*	*qāk*	*ā / a'*, ^{C}*âk*	
Yugh Ket	*xus*	*ɨn*	*doŋ / do'ŋ*	*sik*	*xak*	*a*	
Baxta Ket	^{Ms}*xúsem*	^{F}*ynem*	^{Ms}*dogom*	^{Ms}*sýjem*	^{Ms}*xájem*		*xájem-* *-xúsem*
Pumpokol^{X}	*xúta*	*híneang*	*dónga*	*zíang*	*xeílang*	*ágiang*	
Arin^{M}	*qúsej*	*kína*	*t'oŋa*	*šája*	*qala*	*oegga*	
Arin^{X}	*kusket*	*kin*	*tentjag*	*šaja*	*kala*	*ege*	
Arin^{Str}	*kuisa*	*kinä*	*tūŋa*	*šeja*	*xala*	*üga*	
Assan^{M}	*haútu*	*inée*	*tóŋjä*	*šéggiaŋ*	*geigjaŋ*		*geilúdžiaŋ*
Assan^{Kl}	*huča*	*üna*	*toga*	*šega*	*kega*		*geluča*
Kott^{M}	*húča*	*in'a*	*tónga*	*čéga*	*kéga*		*kelúča*
Kott^{C}	*hûća*	*îna*	*tôŋa*	*šêgä*	*xêgä*		*xelûča*
Kan Kott^{X}	*xančixit*	*inča*	*tonča*	*šejče*	*kejče*		*keljuče*
Koib. Kott^{F}	*huča*	*ín'a*	*tonga*	*šagä*	*kega*		*keluča*
*Yenisei-an	**χu-sa*	**xɨna*	**do'ŋa*	**si-ka/-jV*	**qä-ka/-jV*	*'*aχV*	**qäj-l-χusa*

C Castrén, F Fischer, Kl Klaproth, M Müller, Ms Messerschmidt, Str Strahlenberg, X Xelimskij

	7_1	**7_2**	**8_1**	**8_2**	**9_1**	**9_2**	**10**
Imbak Ket	*ɔ'n*		*ɨ́nàm* *bə́nsàŋ qō*		*qúsàm* *bə́nsàŋ qō*		*qō*
Yugh Ket	*ɔ'n*		^{F}*ɨnem-* *-boisem-* *-xogem*	(*bɔsim* < R)	^{F}*xusem-* *-boisem-* *-xogem*	(*dɛbet* < R)	*xo*
Baxta Ket		^{Ms}*xájem-* *-ynem*		^{Ms}*xájem-* *-dógom*		^{Ms}*xajem-* *-syjem*	(*ýpšo* all)
Pumpokol	*ónjaŋ*		*hinbássiaŋ*		*xúta-* *-hamósa-* *-xaiàŋ*		*chaiàŋ*
Arin^{M}	*yn'a*		*kenjamenča*		*kusamančau*		*qoa*
Arin^{X}	*ona*		*kinamančaú*		*kozomenčo*		*kova*
	7_1	**7_2**	**8_1**	**8_2**	**9_1**	**9_2**	**10**
Arin^{Str}	*una*		*kina* *minšau*		*kuisa* *minšau*		*hioga*
Assan^{M}		*geilíniaŋ*		*geiltáŋiaŋ*	*godžibuná-* *-giaŋ*		*hágiaŋ*
Assan^{Kl}		*kelina*		*kaltaga*	*pčumnaya*		*chaha*

Kott^{M}		_kelína_	_ɨnäm-bönsem-xogem_	_xeltóŋa_	_hučabunága_		_hága_
Kott^{C}		_xelîna_		_xaltôŋa_	_čumnâga_		_hâga_
Kan Kott^{X}		_kelinče_		_keltonče_	_gulčanak čem_		_xakče_
Koib. Kott^{F}		_kelína_		_xeltónga_	_huča bun haga_		_haga_
*Yeniseian	_*'o'n-_	_*qäj-l-xɨna_	_*xɨna-wənsV-χɔGa_	_*qäj-l-do'ŋa_	_*χusa-wən(sV)-χɔGa_	_*qäjam-sijam_	_*χɔGa_

	20$_{1}$	**20$_{2}$**	**30$_{1}$**	**30$_{2}$**	**40$_{1}$**	**40$_{2}$**	**50$_{1}$**	**50$_{2}$**
Imbak Ket	_ɛ'k_		_dɔŋa_ ^{M}_doŋhä_		(_śɔl'ś_ < R ^{M}_soluk_)		_qɔl'ep ki'_	
Yugh Ket	_ɛ'k_		_dɔ́ŋfa_		_sikfa χo_		_χɔ́lap ki_	_χakfa χo_
Pumpokol^{X}		_hédiaŋ_	_dóŋbák-syŋ_			_situdi_		
Arin^{M}		_kínt'ūŋ_		_t'oŋt'ūŋ_		_šájt'ūŋ_		
Arin^{X}		_kintjuga_		_tjuntjuga_				
Arin^{Str}		_kintuŋ_		_toŋ-tuŋ_		_šejg-tuŋ_		
Assan^{M}		_intúkn_		_toóntukn_		_šégtukn_		
Assan^{Kl}		_üntugu_		_tontaguo_		_šeitagu_		
Kott^{M}		_íntukn_		_tóntukn_		_čéjtukn_		
Kott^{C}		_int^{h}ukŋ_		_tôntukŋ_		_śêgt'ukŋ_		
Kan Kott^{X}		_intuk_		_tontuku_				
Koib. Kott^{F}		_yntugú_^{Ms}		_toŋtugu_^{Ms}		_kajtugu_^{Ms}		
*Yeniseian	_*'e'k_	_*xɨn-tu'kŋ_	_*do'ŋ-pa χɔGa_	_*do'ŋ-tu'kŋ_	_*sika-pa χɔGa_	_*sija-tu'kŋ_	_*χɔlab ki'_	_*qäk-pa χɔGa_

	50$_{3}$	**60$_{1}$**	**60$_{2}$**	**60$_{3}$**	**70$_{1}$**	**70$_{2}$**	**70$_{3}$**
Imbak Ket		_aγa qo·_			_ɔnna qo·_ ^{M}_onho-xoge_		
Yugh Ket		_a^{h}fa χo_			_ɔ́nfa χo_		
Pumpokol^{X}	_xeiltudi_		_áltudi_			_óntudi_^{M}	
Arin^{M}	_kalt'ūŋ_		_ő́gt'ūŋ_			_ýnt'uŋ_	
Arin^{X}							
Arin^{Str}	_kuvul_		_uj-tuŋ_			_untuŋ_	
Assan^{M}	_géigtukn_			_geilúštukn_			_geilíntukn_
Assan^{Kl}	_keitago_			_kelientago_			_kelientago_
Kott^{M}	_kéitukn_			_kelúštuj_			_kelíntukn_
Kott^{C}	_xêgt'ukŋ_						
Kan Kott^{X}							
Koib. Kott^{F}							
*Yeniseian	_*qäj-l-tu'kŋ_	_*'aχ-pa χɔGa_	_*'aχ-(l-)-tu'kŋ_	_*qäj-l-χus-tu'kŋ_	_*'o'n-pa χɔGa_	_*'o'n-tu'kŋ_	_*qäj-l-xɨn-tu'kŋ_

	80_1	**80_2**	**80_3**	**90_1**	**90_2**	**100_1**	**100_2**	**100_3**
Imbak Ket	*ɛkś bəńśaŋ ki'*	^{M}*ɨnem-bönsem-koho-kihä*		*qo·ś bəńśaŋ ki'*		*ki'*		
Yugh Ket	*ɛksɨ bəse ki*			*χose bəse ki*		*ki*		
Pumpokol^{X}		*hinbasitudi*^{M}			*xatósaxa*		*útamsa*	
Arin^{M}		*kina-mančau t'ūŋ*			*kusa-mančau -t'ūŋ*			*jus*
Arin^{X}								*kusčjus*
Arin^{Str}		*kina-minšau -tuŋ*			*kuisa-minšau-tuŋ*			*yuzz*
Asan^{M}			*geiltóntukn*		*hagašibùn-alčín tášu*		*alčín támši*	
Asan^{Kl}			*kelton-taga*		*kučùm nai tagu*		*altümbamči*	
Kott^{M}			*xeltóntukn*		*hučabunága tukn*		*álčin támši*	
Kott^{C}						*ujâx, ujakŋ*	*aštamše*	
	80_1	**80_2**	**80_3**	**90_1**	**90_2**	**100_1**	**100_2**	**100_3**
Kan Kott^{X}							*alte tamši*	
Koib. Kott							*alčin támši*	Kamas. *dus*^{Str}
*Yeniseian	_*'e'k-s wənsVm ki'_	_*xɨnam-wənsV(m) χɔGa ki'_ or _tu'kŋ_	_*qäj-l-do'ŋ-tu'kŋ_	_*χɔGa-s wənsV(m) ki'_	_*χusa-wən(sV) χɔGa tu'kŋ_	_*(uja) ki' ~ gi'_	_*'al-sin tamsi_	_*jus_

Analytical and etymological survey of Yeniseian numerals

1. **χu-sa* = "1" attributive inanimate (a) vs. **χɔ'-k(V)* = "1" animate (b) > Ket *qɔ'k*, Yugh *xɔ'k* (S_{95} 306; S_{82} 225). The second components probably correspond to the pronominal roots:

(a) **si-/*su-* > Ket *śi:ŋ / śīŋ* "here", Kureika dial. *śūŋ* "there" (S_{95} 273); Starostin added the following formations: Yeniseian **pa-s* "one time" (S_{82} 219; S_{95} 244), **de-s* "(one) eye" : Arin pl. *tieŋ* (S_{95} 220; S_{82} 219), further Kott *al-še-n* "once, one time" (S_{95} 306; S_{82}

225) = _al-šin_ (Castrén 1858, 47), Ket Sym _sin_, Imbak _sien_ id. (Castrén 1858, 44).

(b) _*ki-_ > Ket _kīdə_ : _kida_ m. : f. "this", Yugh _kīt : kida_ id.; _*ka-_ > Ket _kańil_ "from here", Yugh _kāt_ : _kada_ m. : f. "that"; Kott _hatuŋ_ "here"; Arin _xa-tu_ "he" (S_{95} 238, 234)

A remarkable formation appears in Kott of Kan _xančixit_ "1", lit. "one man", cf. _xit_ "man". If this is not a scribal mistake (instead of the expected $^{+}$_xučixit_, and this is practically excluded with regard to the word _xančixatela_ "neighbor" [Xelimskij 1986, 205]), the component _xan-_ "1" < _*χan-_ should be segmented. The element _-či-_ is puzzling. It is probably not derivable from Kott (Castrén) _čeäŋ_, _čeaŋ_ "people", as are the higher numerals in Kott of Kan: _inča_ "2", _tonča_ "3", _šejče_ "4", _kejče_ "5", _keljuče_ "6", _xakče_ "10" (Xelimskij 1986, 205). A better solution seems to identify in _-či-_ the same singulative function as in Kott (Castrén) _atči_ "tree" : pl. _ak / ax / āx_ "trees, wood" < _*xɔksi_ : _*xa’q_. Etymologically it should be of the same origin as the sigmatic element discussed in (a) - see S_{95} 198. Summing up, the internal analysis allows us to separate the following segments: _*χu- /*χɔ’- / *χan-_; _*-sa / *-si_; _*-k(V)_, which in combination formed such meanings as "that/this one", "one (t)here", and further functions as animate or inanimate.

The external parallels confirm this conclusion:

Burushaski:

(i) Hunza-Nagir _hin_, Yasin _hen_ "1" for human beings, _han_ for all other nouns, but Hunza-Nagir _hik_, Yasin _hek_ for abstract nouns and mass entities (Berger 2008, 78). Cf. also Hunza-Nagir _hunćó / huntí_, Yasin _huçó / hutí_ "9" < _*hun-tr-io_, where _*hun-_ = "1", _*-tr-_ reflects Hunza-Nagir _tóorum-o/-i_ "10", Yasin _tórum_, shortened also in another archaic compound, namely Hunza-Yasin _áltar_, Nagir _álthar_ "20" < _*altó tóorum_ "2 x 10", while _*-io_ is the plural ending, today usually _-o_ (Berger 2008, 79-80).

(ii) Hunza-Nagir _i·sɛ_, _isɛ_ "that, the; that one, it" (class x), pl. _i·tsɛ_ "those, the; those ones; they" (Lorimer 1938, 47, 49) = _isé & es_, pl. _iċé & eċ_ "das da" (class x), Yasin _se & os_, pl. _ċe & oċ_ id. (Berger 1998, 215; 2008, 70-72).

Sino-Tibetan:

(i) Sherdukpen _han_, Zeme _hang-kat_, Maram _hang-line_ "1", cf. _hang-na_ "2", _hang-tum_ "3", Nocte _van-the_ "1", cf. _vanyi_ "2" < _*van-nyi_, _van-ram_ "3" (Matisoff 1997, 22-23).

(ii) Kamarupan _*(t)sa_ > Garo _sa_, Kokborok _-cha_, _-sa_, _-ca_, Lakher _sá_ "1", cf. also _sa-pali_ "4", _sa-pangaw_ "5", further Lotha _ma-tsa-nga_ "1", Tiddim _a-ma-sa_ "first", and Jingpho _šà_ "only"; _*(t)se_ > Tangsa of Moshang _aši_, _aše_, Tangsa of Muklom _ase_, Kimsing _aši_, Boro _-še_, _se_, Dimasa _se_, Mikir _isi_ "1", cf. also _throk-si_ "7" = _throk_ "6" + _si_ "1", _si-r-kep_ "9" = "1" subtracted from _kep_ "10" (Matisoff 1997, 22).

North Caucasian: _*ħəcV_ or _*cəħV_ (NCED 323-24)

Tsezic _*hə̃s_ "1" > Tsez _sis_, Ginukh _hes_, Khvarshin _has_, Inkhokvari _hos_, Bezhta _hõs_, Gunzib _hə̃s_ (this form corresponds best with Yeniseian _*χusa_ & _*χansi_ "1");

Nakh _*cħa_ "1" > Chechen _cħa’_, Ingush _ca_^{C}, obl. _cħa-nne_, Batsbi _cħa_ id.

Other forms indicate the monosyllabic structure:

Avar-Andi _*ci-_ "1", _*ca-ru/-nu_ "together"; Tsezic obl. _*ssɨ-_; Lak _ca_; Dargwa _*ca_; Lezghian _*ssa_; Khinalug _sa_; West Caucasian _*zV_ "1".

Lit.: S_{82} 225 & S_{95} 306: Yen+NCc (S_{95} also thinks about ST **'it* "1", if it is derivable from *'*ic*).

2. **xɨna* = "2" (S_{95} 296; S_{82} 162, 209).
Sino-Tibetan **K-nij(s)* (S_{95} 296) = **nĭj* (CVST II, 35):
Old Chinese 二 **nijs*; Tibetan *gnyis*; Lolo-Burmese **ni(k)x*, Burmese *hnać*; Kuki-Chin **k-hnis*; Bodo-Garo: Dimasa *gi-ni*, Garo *g-ni* etc.
Nadene **de-naq-qai* "2" (Werner 2004, 160):
Tlingit *déix̱* "2"; Tahltan *łaké*, Chipewayan *náke*, Dogrib *nakka*, Tututni *náxe*, Umpqwa *nakhuk*, Hupa *nahx*, Mattole *nakxé'*, Kato *naka*, Navajo *naaki*, Chiricahue *naaki*, West Apache *nakih* etc.
Ascribing the value "two" to both the hypothetical components of the Yeniseian and Sino-Tibetan numeral "two", Starostin (S_{95} 296) compared them with North Caucasian **(t)q̇Hwā̆* "2" (NCED 924-25) and **nă̆wš̱i* "two-year-old animal" (NCED 845-46), respectively. It is rather difficult to accept the equation 2 x 2 = 2, perhaps more acceptable is *"both two" = "2".
Lit.: Ramstedt 1907, 3; Bouda 1957, 87: Yen+Tib; Sedláček 2008, 249: Yen+ST; S_{82} 209: Yen+ST+NCc **(t)q̇Hwā̆*; S_{95} 296: Yen+ST+NCc **q̇Hwā̆ & *nă̆wš̱i.*

3. **do'ŋa* = "3" (S_{95} 222-23; S_{82} 210)
Sino-Tibetan **(g-)sūm* "3" (CVST IV, 110) = **sɨ̄m* (Starostin, *ST Database*):
Old Chinese 三 **sə̄m*; Tibetan *gsum*; Lolo-Burmese **sumx* > Burmese *sumh*; Bodo-Garo: Dimasa *gă-thām*, Garo *gi-thom*; Moshang *a-tūm*; Kuki-Chin **k-in-thum*, Lushai *thum* "3" etc.
North Caucasian **ś̱wimHV* "3" (NCED 978):
Lak *šam*; Khinalug *pš*^{w}*a* "3"; Lezghian **š/s*$^{(w)}$*imV-ç̣u-r* "30" > Tabasaran Dübek *simi-ç̣ur*, Kandik *sumç̣ur*, Agul Burshag *šin-ç̣ur* id.
Burushaski:
Hunza *śum-sóoi* "third unit in the four-finger measure system" : *sóoi* "the first unit in calculation with four fingers" (Berger 1998, 399, 382).
Lit.: Ramstedt 1907, 3: Yen+Tib; Sedláček 2008, 248: Yen+ST; Bouda 1957, 83: Yen+Tib+NCc+Kartv **sam-* "3", probably of NCc origin (cf. NCED 978); S_{82} 210 & S_{95} 223: Yen+ST+NCc; Starostin, Burushaski Database: Yen+ST+NCc+Bur.
Note: Starostin (S_{82} 219; S_{95} 220) saw an analogous initial correspondence in Yen **de*$^{(ˀ)}$*n* "milk; nipple" vs. NCc **š̱ă̆nʔu* (or **š̱ă̆mʔV*) "milk, udder". Concerning the correspondence of Yen **ŋ* vs. *m* in other Sino-Caucasian languages, cf. e.g. Yen pl. in **-ŋ* vs. ECc **-mV* id., Yen **ča[j]aŋ* "bear" vs. NCc **cwă̆ʔmV* id.. (S_{82} 210-11; S_{95} 215). On the other hand, the initial correspondence is rather exceptional and so it is legitimate to seek another solution. It may be found in ST: Written Burmese *toŋ* "to measure in cubits",

'*ətoŋ* "a cubit (measure of length equal to 2 spans); wing", *tamtoŋ & tətóŋ* "elbow; measure of arm from elbow to end of middle finger" (Matisoff 1985, 431).
In agreement with the rules of nominal morphology, Werner (2004, 83) derives Yen **do'ŋ* "3" from **do'* / **dok* + collective suffix **-ŋ* and compares it with Nadene **taqi(-'eq-i)* "3" > Ahta *taaki*, Tana *taguh*, Chipewayan *taayi*, Umpqwa *ta'aγ*, Mattole *daak'éh*, Navajo *táá'* etc. With regard to Tlingit *daq-ká* "interior" it could designate originally "middle finger".

4. **si-ka/-jV* = "4" (S_{95} 273; S_{82} 161)
North Caucasian:
Nakh **šiʔ*, obl. **šina-* "2", Hurrian *šin(a)* "2" (NCED 845-46).

?Nadene:
Haida *stîñ* "2" : *stΛnsîñ* "4" = "2 x 2" : *stansΛñxa* "8" = ("2 x 2")$^{\text{plural}}$ (Swanton)?
The connection between the numerals "2" and "4" and also "8" is most apparent in Burushaski: *altó* "2" vs. Hunza-Nagir *wálto*, Yasin *wáltu* "4" < **u-(w)álto* *"die (zwei) Zweier", besides Hunza *altámbo*, Nagir *althámbo*, Yasin *altámbu* "8" (Berger 2008, 78-79).
Note: Ramstedt (1907, 3) compared the Yenisian numeral with Tibetan *bži* and Modern Chinese 四 *sì* "4" (Similarly Sedláček 2008, 235), but the Early Old Chinese reconstruction **slhijs* "4" together with Lolo-Burmese **(b)lijx* > Burmese *lijh*; Kachin: *məli*; Kuki-Chin **b-n-d'-li*; Kiranti **bhlí (/ *bhắli)*; Bodo-Garo: Garo *bri*, Dimasa *biri*; Kanauri *pö*; Moshang *bă-li*; Namsangia *bĕ-li*; Thulung *bli*; Digaro *kəprei*; Miri *phli*; Trung *bli* id., idicate the protoform **(p-)lĭj* (CVST III, 25) which is probably not compatible with the Yeniseian numeral, but with West Caucasian **p(:)əX̣ə* "4", East Caucasian **bū̆nḺe* "8" (NCED 314-15); Burushaski: Hunza-Nagir *wálto*, Yasin *wáltu* "4" (Berger 2008, 79); Basque *lau* "4" (Bengtson 2009, 182: WCc+ECc+Bur+ST +Basque).

5. **qä-ka/-jV* = "5" (S_{95} 256; S_{82} 161).
Perhaps most promising is an internal etymology based on Yeniseian **qo* "full, complete, enough" > Ket *qɔ*, Yugh *χɔ*, *χo* id. (Werner II, 92). Concerning the semantic shift, cf. Nama (Central Khoisan) *góro* "5", lit. "whole", or Northern Sotho (South African Bantu) *mphetša* "5", lit. "completion", maybe also Indo-European **penk*^{w}*e* "5" vs. Hittite *panku-* "all (of), entire, complete, every; multitude" (Polomé 1968, 99-101; Blažek 1999, 226). The difference in the root vowels resembles the opposition between the front and back vowels in the singulars vs. irregular plurals respectively in some forms: Ket *t'ip*, pl. *t'ap* "dog", Kott *alšip*, pl. *alšap* id.; Ket *ses*, pl. *sâs* "river"; Kott *êg*, pl. *ag* "goat"; Kott *šêt*, pl. *šat* "larch" (Castrén 1858, 18, 24).
Alternatively, Yen **qä-Ka/-jV* can be compared with one of the Sino-Tibetan designations of "hand": Boro *a-káy*, *ha-káy* "hand, arm", Kachari *a'-kai'* "hand"; Lepcha *ká*, *a-ká* id., Yimchungrü *kha*, Ao Chungli *te-ka* id.; Sangtam *khe*, Lotha *okhe* id., maybe originally with final *-t*, cf. Meluri *akhet*, Yacham-Tengsa *takhat* "hand" (Matisoff 1985, 438-39). It

is also attractive to compare it with Tlingit *keijín* "5" <http://www.zompist.com/amer.htm>, but this form is quite isolated within Nadene and its internal structure is rather obscure.
Werner (II, 81) suggests an etymology based on the word "thumb", cf. Ket *qʌ:l*, Yugh *χɔ'l* < **qo'l* (Werner II, 148) or **χV'-gVĺ* "thumb" = "big finger" (S$_{95}$ 307: Yen+ECc **k̠olV* ~ **k̠ołV* "toe"; OCh 指 **kij'* "finger" < **kil'*), but he does not explain the absence of *-l-* in the numeral (its presence in Arin & Pumpokol is apparently suffixal) and different vocalism.
Ramstedt (1907, 3) and Bouda (1957, 91) compared Yen "5" with Tib *lŋa*, Middle Chinese 五 *ŋó* (Old Chinese *ŋhā'* < ST **ŋāH* - see CVST V, 136). In Yeniseian there is no initial **ŋ-* (S$_{82}$ 162) and the correspondence of ST **ŋ-*, namely **b-* (cf. Starostin 1984, 22, 24, #29), is doubtful. On the other hand, the record of Ket *naγam* "5" from the Archive of Adelung (see Dul'zon 1961, 179), if it is not a mistake, supports Ramstedt's comparison. Finally, in the Qiangic branch of Sino-Tibetan, there are denasalized forms of the numeral "5": Pumi *γuã*, Qiang *ʁua* (Matisoff 1997, 77).

6.1. *'*a*$^{(ʿ)}$*χV* = "6" (S$_{95}$ 185; S$_{82}$ 215) ~ **a'əgə* "6" (Werner I, 93).
The key to the internal Yeniseian etymology is probably in the etymon *'*ə'k* (~ *x-* & *-g*, *-χ*) "superfluous" > Ket *ʌ'k*, Yugh *ʌ'k*; Kott *êx*, *êg* id., *êäk* "too many" (S$_{95}$ 191; Werner II, 402; Castrén 1858, 148, 200). Its derivatives are used to form teens: Ket *áγam ʌ́γam qo·* "16", lit. "six superfluous over ten", Yugh *asak χo* "16" = *a^h:s* "6" + *ʌ'k* "superfluous" + *χo* "10" (Werner I, 84), similarly Ket *qáγam ʌ́γam qo·*, Yugh *χájamak χo* "15" etc., but also units over tens: Ket *qáγam ʌ́γam ε'k* "25", *qáγam ʌ́γam s'ɔl'* "45", etc. (Werner II, 75-77). In perspective of semantic typology there are remarkable structural parallels: Dravidian **cāṟu* "6" < **cal-* "to be abundant, full, enough" + the neuter marker *-tu* (Andronov 1978, 245); Beja (North Cushitic) *asa-gwəl/r* "6" = the participle *asa-* from the verb *as-* "to be/become/go up" + *gwəl/r* "1" (Reinisch 1894, 7, §145b); Umbundu (Bantu language from Angola) *epandu* "6" : *panda* "to proceed, advance, spproach" (Hoffmann 1952-53, 65); Indo-European **(K)sweḱs* "6" < **ĝ^h(e)s-* "hand" + **weḱs-* (not **H$_2$weg-s-*!) "to grow", cf. Lithuanian *vešė́ti* "to grow vigorously, thrive; prosper, flourish" (Blažek 1999, 239-40). The original protoform could be a hypothetical compound **χusa-'a*$^{(ʿ)}$*χV-qäka* "1 superfluous over 5", simplified in **χusa-'a*$^{(ʿ)}$*χV* "1 superfluous" or *'*a*$^{(ʿ)}$*χV-qäka* "superfluous over 5", and finally only *'*a*$^{(ʿ)}$*χV-* "superfluous", similar to Indo-European (Armenian, Prussian) **weḱs-* "6", lit. "overgrowing".

Note: Starostin (S$_{95}$ 185; S$_{82}$ 215) compared Yen "6" with NCc **ʔrǟnƛ̠E* "6" > Nakh **jalχ*; Avaro-Andian **ʔinƛ:i-*; Tsezian **ʔẽλ:-(nɔ)*; Lak *ralχ-*; Dargwa **ʔurek*; Lezghian: **riƛɨ-*; Khinalug *zäk*; WCc **ƛ^{w}V* id. (NCED 219-20); ST **rŭk* "6" > OCh 六 **rhuk;* Tibetan *drug*; Lolo-Burmese **khrukx* > Burmese *khrauk*; Kachin *kru'*; Kuki-Chin **t-r$_j$uk*, Lushai *pa-ruk*, *ru'*; Lepcha: *tă-răk*; Kiranti **(T-)rúk* id. etc. (CVST II, 105), but these forms have their internal structures:

North Caucasian **ʔrā̃nƛ̱E* "6" is analyzable as a compound of x**ʔrā̃n-* *"5" & **ƛ̱E*. The first component is compatible with Hurrian *nariy(a)* "5"; Yeniseian **ŕɔŋ* "hand" > Ket: *ĺoŋ* (Werner II, 9: *ĺa'ŋ*; Castrén 1858, 175: Imbak *ĺâŋat* "hand" < **ĺa'ŋ* + **'a'd* "bone", reconstructed in S_{95} 178), Yugh *ĺɔŋ* "hand"; Arin *lán-t́ūŋ* (Miller, Klaproth), *ĺan-puj* (Loskutov) "wing" (Dul'zon 1961, 170; Xelimskij 1986, 193); Burushaski **-reŋ* > Hunza *-ríin & -ríiṅ*, pl. *ríiṅćiṅ*, Nagir pl. in °*ćaṅ*, Yasin *-rén*, pl. *-réiṅ(ćiṅ)* "hand" (Berger 1998, 364-65); Sino-Tibetan **ri* > Mikir *ri & ri-pak* "hand", *ri-kan* "forearm", *eri* "arm", Tamang *nā:ri* "arm" (Matisoff 1985, 446) and Abor-Miri-Dafla **(s-)riŋ* ~ **(s-)ryaŋ* "10" > Tagin *ering*, Nishi *aring*, Nishing/Dafla *eriŋ* ~ *erjaŋ*, Bangru *rəŋ*, Bengni *ɯ-rjɯŋ* id., Idu/Luoba *hɹoŋ* "tens" (Matisoff 1997, 27); Basque **a-rrae* "palm, span" (Bengtson, *Basque Database*).

The latter component is derivable from the North Caucasian verb **=äƛËw* "to lie, put, lead" > Nakh **=ill-* "to lie, put upon (something)", **t-ill-* "to put (from above)"; Chamalal *=aλ-* "to begin"; Tsezian **ɔL* "to be"; Bezhta *=oλ-*, Gunzib *=ol-* "to finish"; Lezgian **ˀeλ:^{w}ɨ-* "to put, lie"; West Caucasian **λ'ə-* "to lie" (NCED 278-79). The primary semantics could be "six" = "(one) put upon five" or "beginning the (new) five". Concerning the structural parallels in various language - see above.

Sino-Tibetan **rŭk* "6" (CVST II, 105) is analyzable as a compound of **ri* "hand" and the numeral "1", attested e.g. in Bahing, Thulung *kwoŋ*, Thulung Rai *ko*; Abor-Miri *a-ko*, Dafla *aku*, Miju *-ko* (Hodson 1913, 320; Matisoff 1997, 19), cf. also Miri *ákkéṅkɔ* "6", which represents a transparent compound of *akɔ* "1" & *aṅɔkɔ* "5" (Gowda 1983, 424).

6.2. **qäj(V)-l(V) χusa* = "5 extended by 1".

The *l*-suffix extends the base of the numeral "5" in the Assan-Kott compounds "6", "7", "8", but also the Kott numeral *hâga* "10" extended in *hâgal hûča* "11", *hâgal îna* "12" (Castrén 1858, 45). It can perhaps be identified with the Ket derivational suffix *-la* forming adjectives and adverbs (Werner II, 1), with a probable original function "extending, extended" (Vajda 2004, 38).

7.1. **'o'nV* = "7" (S_{95} 197; S_{82}).

Perhaps shortened from a hypothetical compound **qäka(m)-'o'-xɨna* "5 with 2", where the numeral "5" was omitted as in the numeral "6". The postposition "with" is attested in Kott *ô* "mit, zugleich" (Castrén 1858, 201; Werner II, 30).

Castrén (1858, 42) saw the identity of *oan* "7" and *oan* "many", Dul'zon (1968, 127) mentioned the quasi-homonym between the numeral "7" and the word "many", reconstructed as **'ōn-* (~ **xōn-*) (S_{95} 198) = **o'ənə* (Werner II, 42). It is possible to imagine a compound **xɨna-'ōn-* "2 in addition", but it is a questionable, if the meaning "in addition" could be ascribed to the word **'ōn-*. By the way, it is not excluded the

meaning "7" developed metaphorically in "many" and not vice versa.
Starostin (S_{95} 197) compared Yen **'o'nV* "7" with ST **(s-)nĭt* "7" > OCh 七 **chit* (< **snhit* ?; cf. OCh > Hmong-Myong **zńia(t)* "7" - see Benedict 1976, 171); Burmese *khu'-nać*; Kachin *sənit*; Kuki-Chin **s-Nis*; Limbu *nu-si*; PGurung **ńi(s)*; Bodo-Garo: Garo *sni*, Dimasa *sini*; Rawang *sănit*, Trung *sə-ńĭt*; Kanauri *stiś*; Mantshati *nyiź-i*; Rgyarung *śnis*, *-śnes*; Namsangia *iŋit*; Andro *sini* (CVST II, 37-38). But the ST numeral "7" is also derivable from the numeral "2" (cf. Matisoff 1997, 66-67). The velar prefix in some forms, e.g. Burmese *khu'-nać*; Miśing *ki-nit*, Abor *ki-nid-e*, Yano *ka-ni*, East Nyising *ka-nni* "7" (IST 202), may be identified with one of the following etyma:
(i) Written Burmese *khu & 'əkhu* "unit, individual thing", implying the semantic motivation *"unit of fingers" + "2" = "7" (Matisoff 1985, 432; 1997, 84).
(ii) ST **kūt* "(bone of) hand" (CVST V, 75; Matisoff 1985, 432; IST 140, 144, 161).
(iii) Khumi *kiu*, Zotung *kui'*; Sunwar *guy*, Kham of Nepal *'kwi* "hand" (Matisoff 1985, 437).
(iv) Boro *a-káy*, *ha-káy* "hand, arm", Kachari *a'-kai'* "hand"; Lepcha *ká*, *a-ká* id., Yimchungrü *kha*, Ao Chungli *te-ka* id.; Sangtam *khe*, Lotha *okhe* id., maybe originally with final *-t*, cf. Meluri *akhet*, Yacham-Tengsa *takhat* "hand" (Matisoff 1985, 438-39).

7.2. **qäj(V)-l(V) xɨna* = "5 extended by 2".

8.1. **xɨna wən-sV χɔGa* = "2 subtracted from 10".
The component **wən-sV* "not existing, there is not" continues in North Ket *bə́ńčaŋ* / *bə́tśaŋ* / *bə́t't'aŋ*, South Ket *bə́ńśaŋ*, Yugh *bɨnči*, Pumpokol *bejsem*, Kott *monča* (Werner I, 158), derived from **wən* "not", attested in Ket *bəń*, Assan *bon* / *mon*, Arin *bon*, Kott *mon* / *môn* id., before the imperative stems *bô* (S_{95} 293; Werner I, 157). External relatives appear in NCc **ma* "not" (NCED 797) and ST **ma* "no" (CVST 16; STC 97).

8.2. **qäj(V)-l(V) do'ŋa* = "5 extended by 3".

9.1. **χusa wən(-sV) χɔGa* = "1 subtracted from 10".
The strange record *čumnâga, čunnâga* of Castrén (1858, 45) is understandable in the light of the records from the 18th cent.: *hučabunága* (Müller, Klaproth) - see Werner 1990, 304. The Kan Kott form *gulčanak čem* looks like a misprint with *g* instead of *h* (in South Russian, Ukrainian and Belorussian the Cyrillic letter *г* is pronounced as [*h*]).

9.2. **qäjam sijam* = "5 + 4".
The final *-am* is the neuter-class predicate concord affix (Werner I, 32; Vajda 2004, 36, 40).

10. **χɔGa* = "10" (S_{95} 303; S_{82} 167).
There is no internal etymology, maybe with exception of the first component of the

numeral **χu-sa* & **χɔ'-k(V)* "1" (see §1 above).
Outside Yeniseian there are rather limited Sino-Tibetan counterparts: Mewahang *hukhu* "10" : *ihuk* "5" vs. *huk* "hand" (Matisoff 1997, 77; Gvozdanović 1999, 102), Limbu *hukpe* "hand" (Matisoff 1985, 432), maybe comparable with Sherdukpen *khu* "5" (Matisoff 1997, 77 thought about influence of *khit* "6", but why not an opposite influence?).
?North Caucasian:

ECc **G̱ă* "20" > Nakh **ṭq̇a* (~ *-ā*); Avaro-Andian **q̇:V-*; Tsezian **qo-(nɔ)*; Lak *q̇u*; Dargwa **ʁa-*; Lezghian **q̇:a*; Khinalug *q̇a(n)* (NCED 456). The initial dental in Nakh could be a relic of the original compound **(t)q̇Hwǟ* & **G̱ă* "2 x *10". The NCc numeral **(t)q̇Hwǟ* "2" is attested in all branches with the exception of Nakh: Avaro-Andian **ḳi-*; Tsezian **q̇ʷɨ-nV*; Lak *ḳi=a*; Dargwa **ḳʷi*; Lezghian **q̇Iʷä*; Khinalug *ḳu*; West Caucasian **tqI:ʷA* id. (NCED 924).
Basque **hogei* "20" > Bizkaian, Gipuzkoan, High Navarrese *ogei*, Low Navarrese, Lapurdian *hogoi*, Zuberoan *hógei*, Roncalese *ógei*, *ogéi* (Bengtson 2009, 136; but the initial *(h)o-* can be a prefix, defined by Bengtson 2009, 66). The final *-i* can perhaps be identified with the pronominal plural in *-i-*, cf. *(h)ar-* "that (one)" vs. *(h)ai(e)-* "those" (Trask 2008, 99). In this case it is possible to conclude the original meaning of **hoge* would be *"10".
?Nadene:
Eyak **Gā* in *dʌGāq'* "10" (Krauss). Nikolaev (1991, 55) who tried to connect Nadene + NCc, also added Tlingit *-qa* "20". In reality it is *tlēqā* "one (person), cf. *tlex'* ~ *tlek* "1" & *gá(h)* "man", i.e. "fingers of one person" (Ruhlen 1994, 102, 104).

20.1. **'e'k / *xe'k* = "20" (S_{95} 186; S_{82} 215).
It is possible to etymologize this on the basis of **'***ə***'k* (~ *x-* & *-g*, *-χ*) "superfluous" > Ket *ʌ'k*, Yugh *ʌ'k*; Kott *êx*, *êg* id., *êäk* "too many" (S_{95} 191; Werner II, 402; Castrén 1858, 148, 200), originally perhaps "10 superfuous over 10", similarly as in formation of teens: Ket *áγam ʌ́γam qo·* "16", Ket Sym *âs aḱ xuos* (Castrén 1858, 41), lit. "six superfluous over ten" (see §6.1. above).

Note: Starostin (S_{95} 186; S_{82} 215) compared Yen **'e'k / *xe'k* "20" with NCc **G̱ă* "20" (NCED 456), but the internal etymology seems preferable, while NCc "20" is better compatible with Yen "10" (§10).

20.2. **xɨn(a) tu'kŋ* = "2 tens".
The reconstruction **tu'ŋ* of the numeral designating tens (S_{82} 216; S_{95} 289) should probably be changed, because there is a different reflex of the sequence **-V'ŋ-*, reconstructed for the numeral **do'ŋa* "3". The Kott plural in *-kŋ* indicates the singular in velar, cf. *ix* "name", pl. *e(ä)kŋ*, *îg* "day", pl. *eäkŋ*, *d'ix* "mountain", pl. *d'ekŋ*, *t'êx* "rope", pl. *t'akŋ*, *pêg*, *pêx* "stump", pl. *pakŋ*, *hujêk* "mane", pl. *hujêkŋ* etc. (Castrén 1858, 24).

The hypothetical protoform **tVʾK*, pl. **tu'kŋ*, may be identified with Yen **tə'q* "finger", pl. **tə'qVn* "fingers; hand" (see below). In the plural form the zero-grade of the plural suffix (in compounds) leads to **tə'qn* > **tə'qŋ* > **tə'kŋ*, the root vowel *û* appears in some irregular plurals in Ket: *xol* "thumb", pl. *xûlʾ*, *kol*, pl. *kûlʾ* "stem, trunk, log" (Castrén 1858, 18). So it is possible to explain the protoform **tu'kŋ*.

Cf. Yen **tə'q* "finger" > Ket *tʌ'q*, pl. *tʌʁɨn* / *tʊ̄n*; (Müller, Pallas) *tő́gon*, (Klaproth) *togan*, *tegon* "hand (manus)" (= "fingers"); Yugh *tʌ'x* / *tʌ'q*, pl. *tʌxɨn*; Kott *thok*, gen. *thogi*, *thogei*, pl. *thogan*; Pumpokol *tok* (Müller, Pallas, Klaproth) "fingers"; *ton* (ibid.) "manus", (Pallas) "brachyum" (Dul'zon 1961, 176; S_{95} 283-84; Werner 2, 302 **t^{h}ə'q*).

?ST **tjăik* (CVST II, 130) ~ **djiə̆k* "1" (Starostin, ST database) > OCh 隻 **tek* "single, one"; Tib. *gćig, ćhig* "1"; Lolo-Burmese **t(h)i(k)x* > Burmese *tać* "1"; Kachin ?*tai* "to be single"; Lepcha *tăk, ták* "what comes first, the first, the summit"; Kiranti **th[i]k (/ˀ_t-)* "1"; Rawang *thi*; Rai *tik*; Trung *tiʔ*. (STC 94: **tyak* ~ **tyik*; CVST II, 130; Bengtson 1991, 90: Yen "finger" + ST "1").

Note: Starostin (S_{95} 289; S_{82} 216) compared Yen **tu'ŋ* with NCc **ʔĕnc̣E̅* "10" > Nakh **'iṭṭ;* Avaro-Andian **hoc̣o-*; Tsezian **ɔ̃c̣ə(-nɔ);* Lak *ac̣*; Dargwa **wec̣-*; Lezghian **u̯ic̣ɨ-*; Khinalug *jä^{C}iz*; West Caucasian **b-c^{w}ə*; ; especially the forms used in tens: Andi *-c̣o-*, Tabasaran *-c̣u-*, Dargwa *-c̣a-li*, Lak *-c̣a-l* < NCc **-c̣ĕ-* (NCED 245-46) and ST **[ʒh]Vj* "10" > Tib *bću* "10", in compounds *bćo*; Lolo-Burmese **chaj* > Burmese: *ćhaj*; Kachin *ši*; Lepcha *kă-tí*; PGurung **ć[ù]*; Bodo-Garo: Garo *tśi-kuŋ*, Dimasa *dźi*; Namsangia *i-tśi* (IST 124, 437; STC 94; CVST IV, 144-45).

30.1. **do'ŋ-pa χɔGa* = "3 times 10".
The element *-pa* forms the multiplicative numerals, cf. Yen **pa* "times" > Ket *hāś* id., *hāj* / *hāś* "still", Yugh *fa, fas* "times", *faj / fas* "still"; Kott *-fa, -pa* in *īn-pa, -fa* "twice" etc. (S_{95} 244).

30.2. **do'ŋ tu'kŋ* = "3 tens".

40.1. **sika-pa χɔGa* = "4 times 10".

40.2. **sija tu'kŋ* = "4 tens".

40.3. Old Ket Imbak *sóluk* (Müller), (Eed-šeš River) *soluk-šá* (Messerschmidt, Klaproth), South Ket *śɔl'ś*, North Ket *śɔl'* "40" < Russian *sorok* "40" (Dul'zon 1961, 183; Werner II, 208).

50.1. **χɔlab ki'* = "half 100", cf. Yeniseian **χɔlab* "side, half" > Ket *qɔ́lap*, Yugh *xɔlap*; Kott *halap* "half"; Arin *qubur-* / *qurbur-* in *qubur-saj* (Müller), *qurbur-saj* (Klaproth) "midnight"; Pumpokol *kólpar* (Müller, Klaproth), *kolpa*r (Pallas) "back", derivable from **χol-* "cheek" > Ket *qɔĺet,* pl. *qɔĺerəŋ*, Yugh *xɔlat*, pl. *xɔladɨŋ*; Kott *hol*, pl. *hōlaŋ*; Assan *hólan* (Müller, Pallas, Klaproth) "cheeks"; Arin *bɨ-qoĺoŋ* (Müller, Klaproth) "(my) cheeks", *bɨqoĺuŋ* (Pallas) id. (S$_{95}$ 304, 302; Dul'zon 1961, 183, 189).

50.2. **qäk-pa χɔGa* = "5 times 10".

50.3. **qäj(V)-l(V) tu'kŋ* = "5 tens".

60.1. *'*aχ-pa χɔGa* = "6 times 10".

60.2. *'*aχ(V)-(lV) tu'kŋ* = "6 tens".

60.3. **qäj-l(V) χus(a) tu'kŋ* = "(5 + 1) tens".

70.1. *'*o'n(V)-pa χɔGa* = "7 times 10".

70.2. *'*o'n(V) tu'kŋ* = "7 tens".

70.3. **qäj(V)-l(V) xɨn(a) tu'kŋ* = "(5 + 2) tens".

80.1. *'*e'k-s wən-sVm ki'* = "20 subtracted from 100".

80.2.1. **xɨnam wən-sV(m) χɔGa ki'* "(2 subtracted from 10) in 100".

80.2.1. **xɨnam wən-sV(m) χɔGa tu'kŋ* = "(2 subtracted from 10) tens".

80.3. **qäj(V)-l(V) do'ŋ tu'kŋ* = "(5 + 3) tens".

90.1. **χɔGa-s wən-sV(m) ki'* = "10 subtracted from 100".

90.2. **χusa wən(-sV) χɔGa tu'kŋ* = "(1 subtracted from 10) tens".

100.1. **(uja) ki' ~ gi'* "(that) 100", cf. Kott *uju* "he", *ujō* "that" (S$_{95}$ 238).
It is attractive to see in **ki'* ~ **gi'* the adj. "new": Yen **giʔ* > Ket *ki'* (attr.), (Kureika) *ki:śi* (pred.), (Baklanixa) *ki:sə* (pred.); Kott *ki* id. (S$_{95}$ 227; Werner I, 429: **ki'*), hence **(uja) gi'* "that new [numeral unit?]".
Note: Sedláček (2008, 238) proposed a comparison with Tib *brgja*, Hsi-Hsia *yi* "100". But if these forms are derivable from ST **(p-)rjā* "100" (CVST II, 84), the relationship with Yen "100" is untenable.

100.2. *'*al-sin tamsi* "one times 100?" (W I, 25), cf. Kott (C) *alšin* "one times, once", Ket *śi·n*, Yugh *sin* id. (W I, 32; W II, 207). Similarly Pumpokol *útamsa* "100" : *xúta* "1". The word **tamsi* bearing the meaning "100" is perhaps of Tungusic origin, cf. Nanai **taŋγočï*, Manchu *taŋγuči* "100th" : Nanai *taŋγo/ü* "100", Manchu *taŋγu* "100; quantity", Solon *taŋgu*, Negidal *taŋgü*, Oroch *taŋgu*, Udihe *taŋgu*, Olcha *taŋγü* "100", all derived from the common Tungusic verb **taŋ-* "to read, calculate", cf. Negidal *taŋün* "number" (TMS II, 161-63).

100.3. **jus* < late Turkic **jüz*, cf. Oirat *jüs*, *ˊdüs* "100" (S_{95} 233; Werner I, 308).

Abbreviations

Bur Burushaski; Cc Caucasian; Ch Chinese; E East; N North; ST Sino-Tibetan; Tib Tibetan; W West; Yen Yeniseian.

References

Andronov, Mixail S. 1978. *Sravnitel'naja grammatika dravidijskix jazykov.* Moskva: Nauka.

Benedict, Paul. 1976. Sino-Tibetan: Another Look. *Journal of the American Oriental Society* 96/2, 167-197.

Bengtson, John D. 1991. Notes on Sino-Caucasian. In: *Dene-Sino-Caucasian Languages*, ed. by Vitaly Shevoroshkin. Bochum: Brockmeyer, 67-129.

Bengtson, John D. 2009. *Linguistic Fossils. Studies in Historical Linguistics and Paleolinguistics.* Heather Fenton: Theophania Publishing.

Bengtson, John D. 2010. Burushaski Etymological Database <http://starling.rinet.ru>.

Berger, Hermann. 1998. *Die Burushaski-Sprache von Hunza und Nagir*, Teil III: *Wörterbuch Burushaski-Deutsch, Deutsch-Burushaski.* Wiesbaden: Harrassowitz (Neuindische Studien, Bd. 13).

Berger, Hermann. 2008. *Beiträge zur historischen Laut- und Formenlehre des Burushaski.* Wiesbaden: Harrassowitz.

Blažek, Václav. 1999. *Numerals. Comparative-Etymological Analyses and their Implications.* Brno: Masarykova univerzita.

Blažek, Václav. 2001. Etymologizing the Semitic cardinal numerals of the first decade. In: *New Data and New Methods in Afroasiatic Linguistics: Robert Hetzron in memoriam*, ed. by Andrzej Zaborski. Wiesbaden: Harrassowitz, 13-37.

Blažek, Václav. 2009. Hurrian Numerals. *Mother Tongue* 14, 137-142.

Bouda, Karl. 1957. Die Sprache der Jenissejer: Genealogie und morphologische Untersuchungen. *Anthropos* 52, 65-134.

Castrén, M. Alexander. 1858. *Versuch einer jenissei-ostjakischen und kottischen Sprachlehre nebst Wörterverzeichnissen.* Sankt Petersburg: Kaiserliche Akademie der Wissenschaften.

CVST = *A Comparative Vocabulary of Five Sino-Tibetan Languages*, I-VI, by Ilya Peiros & Sergei Starostin. Parkville: University of Melbourne 1996.

D_{61} Dul'zon, A.P. 1961. Slovarnye materialy XVIII v. po ketskim narečijam. *Učenye zapiski Tomskogo gosudarstvennogo pedagogičeskogo instituta*, Tom XIX, Vypusk 2: Lingvističeskie nauki, 152-189.

D_{68} Dul'zon, Andrei P. 1968. *Ketskij jazyk.* Tomsk: Izdatel'stvo tomskogo univerziteta.

DEV *Diccionario etimológico vasco*, I, by Manuel Agud & Antonio Tovar. Donostia-San Sebastián

(*Anuario del Seminario de Filologia Vasca* 22, 1988, 253-312, 625-694, 845-913).

Gowda, Gurubasave K.S. 1983. Tibeto-Burman Numerals. *International Journal of Dravidian Linguistics* 12, 423-428.

Gvozdanović, Jadranka. 1999. Types of numeral changes. In: *Numeral Types and Changes Worldwide*, ed. by Jadranka Gvozdanović. Berlin - New York: Mouton de Gruyter, 95-111.

Hodson, T.C. 1913. Note on the Numeral Systems of the Tibeto-Burman Dialects. *Journal of the Numeral Systems of the Tibeto-Burman Dialects* 1913, 315-336.

Hoffmann, Carl. 1952-53. Zur Verbreitung der Zahlwortstämme in Bantusprachen. *Afrika und Übersee* 32, 65-80.

IST *Introduction to Sino-Tibetan*, by Robert Shafer. Wiesbaden: Harrassowitz 1974.

Klaproth, Julius. 1823. *Asia Polyglotta*. Paris: Schubert.

Krauss, Michael. 2009. *Eyak Numerals*: <https://www.uaf.edu/anla/collections/search/files/EY961K2009/ey_numerals.pdf>

Lorimer, D.L.R. 1938. *The Burushaski Language*, Vol. III: *Vocabularies and Index*. Oslo: Aschehoug & Co.

Matisoff, James A. 1985. Out of a limb: arm, hand, and wing. In: *Linguistics of the Sino-Tibetan Area: The state of the art* (Papers presented to Paul K. Benedict for his 71st birthday), ed. by Graham Thurgood, James A. Matisoff, David Bradley. Canberra: Australian National University (Pacific Linguistics, Series C: No. 87), 421-450.

Matisoff, James A. 1997. *Sino-Tibetan Numeral Systems: Prefixes, Protoforms and Problems*. Canberra: Pacific Linguistics, B-114.

NCED *A North Caucasian Etymological Dictionary*, by Nikolayev, Sergei L. & Starostin, Sergei A. Moscow: Asterisk 1994.

Nikolaev, Sergei. 1991. Sino-Caucasian Languages in America. In: *Dene-Sino-Caucasian Languages*, ed. by Vitaly Shevoroshkin. Bochum: Brockmeyer, 42-66.

Pallas, Peter Simon. 1789[1978]. *Sravnitel'nye slovari vsex jazykov i narečij*, I-II, ed. by Harald Haarmann. Hamburg: Buske.

Polomé, Edgar. 1968. The Indo-European numeral for 'five' and Hittite *panku-* 'all'. In: *Prātidānam. Fs. for F.B.J. Kuiper*, ed. by J.C. Heesterman et al. The Hague-Paris: Mouton, 98-101.

Ruhlen, Merritt. 1994. *On the Origin of Languages. Studies in Linguistic Taxonomy*. Stanford: University Press.

S_{82} Starostin, Sergei A. 1982. Praenisejskaja rekonstrukcija i vnešnie svjazi enisejskix jazykov. In: *Ketskij sbornik: Antropologija, ėtnografija, mifologija, lingvistika*, ed. by E.A. Alekseenko. Leningrad: Nauka, 144-237.

S_{95} Starostin, Sergei A. 1995. Sravnitel'nyj slovar' enisejskix jazykov. In: *Ketskij sbornik: Lingvistika*, ed. by Sergei Starostin. Moskva: Vostočnaja literatura, 176-316.

Ramstedt, Gustav J. 1907. Über den ursprung der sog. Jenisej-ostjaken. *Journal de la Société Finno-Ougrienne* 24/2, 1-6.

Reinisch, Leo. 1894. Die Beḍauye-Sprache in Nordost-Afrika, III. *Sitzungsberichte der philosophisch-historische Klasse der Kaiserliche Akademie der Wissenschaften* 130, Abh. 7.

Sedláček, Kamil. 2008. The Yeniseian Languages of the 18th Century and Ket and Sino-Tibetan Word Comparison. *Central Asiatic Journal* 52/2, 219-305.

Starostin, Sergei A. & George S. 2005-11. North Caucasian, Sino-Tibetan, Yeniseian, Burushaski Etymological Databases <http://starling.rinet.ru>.

STC *Sino-Tibetan: Conspectus*, by Paul Benedict, ed. by James A. Matisoff. Cambridge: University Press 1972.

TMS II *Sravnitel'nyj slovaŕ tunguso-mańčžurskix jazykov*, II, ed. by V.I. Cincius. Leningrad: Nauka.

Toporov, Vladimir N. 1968. Materialy k sravnitel'no-istoričeskoj fonetike enisejskix jazykov. In: *Ketskij sbornik: Lingvistika*, ed. by V.V. Ivanov, V.N. Toporov, B.A. Uspenskij. Moskva: Nauka, 277-330.

Toporov, Vladimir N. 1971. Burushaski and Yeniseian languages: Some parallels. *Travaux linguistiques de Prague* 4, 107-125.

Trask, R.L. 2008. *Etymological Dictionary of Basque*, ed. by Max W. Wheeler. University of Sussex. <http://www.sussex.ac.uk/linguistics/documents/lxwp23-08_edb.pdf>

Vajda, Edward J. 2004. *Ket*. München: Lincom-Europa.

Werner, Heinrich [Verner, Genrix K.] 1980. Enisejskie čislitel'nye pervogo desjatka. In: Jazyki narodov Sibiri: Kemerovskij gosudarstvennyj univerzitet, 207-216.

Werner, Heinrich [Verner, Genrix K.] 1990. *Kottskij jazyk*. Rostov-na-Donu: Izdatel'stvo Rostovskogo univerziteta.

Werner, Heinrix. 2002. *Vergleichendes Wörterbuch der Jenissej-Sprachen*, I-III. Wiesbaden: Harrassowitz.

Werner, Heinrich. 2004. *Zur jenissejisch-indianischen Urverwandtschaft*. Wiesbaden: Harrassowitz.

Xelimskij, Evgenij A. 1986. Arxivnye materialy XVIII veka po enisejskim jazykam. In: Paleo-aziatskie jazyki, ed. by P.Ja. Skorik. Leningrad: Nauka, 179-213.

Acknowledgement:

The present study was prepared in cooperation with the Centre for Interdisciplinary Research of Ancient Languages and Older Stages of Modern Languages (MSM 0021622435) and thanks to the grant GAAV, Nr. IAA901640805.

Václav Blažek
Masaryk University, Brno
Czech Republic
blazek@phil.muni.cz

Appendix: Phonetic correspondences between Yeniseian languages (Starostin 1982, 145-89)

A. Consonant correspondences

Yeniseian	Ket	Yugh	Kott	Arin	Pumpokol
*p	h-, -ø-, -p	f, -p	f-/p^h-, p	$\acute{p}^h$-/p-(/f-), p	p^f-/f-/p-, p
*b	b-, -b-/-v-, -p	b, -p	p	p	b
*m	m	m	m	m	m
*w	b-, -ø-, -w	b-, -ø-, -w	b-/m-, -p-, -w	b, -w	w? / m
*t	t	t	t^h-, t	t, -d-/-t-	t, -d-/-t-
*d	d-, -d-/-r-, -t	d, -t	t-, r	t-, ø(-j)	d-, ?
*n	n	n	n	n	n
*r	ĺ / l	l / r	r	r	r
*l	ĺ / l	l	l	l / r	l
*c	t	č-, t’	h-/t-, t	k-(q-) / t- (d-), t	x-(/c-), t
*ʒ	d-, -d-/-r-, -t	d, -t	ʹd-, -j-	k-, j	k-, d
*r_1	ĺ / l	r	l	l	l
*s	ś / s	s	š-, -č-, -š / -t	s / š / č, -s/-š/-t	t-/c-/s-, t / č / s
*č	t	č-, t’	š-, -č-, -?	s-/š-/č-/k-, ?	x-/k-, -?-, -č
*ǯ	d-, -d-/-r-, -t	ʹd, -t’	č-, -j-, -i	s-/š-, j	č-, -j-/ʹd-, -?
*ń	ń	n	n	n	ń / n
*ŕ	ĺ (/ l)	l-, r	ʹd-, -j-, -i	t-/d-, l	l
*j	ø-, -j-, -i	ø-, -j-, -i	ʹd-, -j-, -i	ø-(/j-), j	d-(-t-) / ø-, -j
* ĺ	ĺ	ĺ	ʹd-, l	?-, r/l	?-, l
*k	k, -γ-	k-, -g-	h-, -k-/-g-, -g/-x	k-/q-/x-, -g-/-j-/-ø-, -ø(/-j)	k-/x-, -ø-/-j-, -t/-č
*g	k, -g-/ŋ	k, -g-	k-, -k-/-g-	k, -g-	?-, -k-/-g-
*ŋ	ŋ	ŋ	ŋ / n	ŋ / g	ŋ
*x	ø-, -γ- (/-g-)	ø-, -g-, -k	ø-, -j-/-ø-, -i	ø-/k-, ø	ø-/h-, ?
*q	q, -R- / -ø-	x, -x /-q	x-/k^h-, -k-/-g- -k/-g/-x	k-/q-, ø (u, j)	k/x, -k
*G	q-, ø	x-, ø	k-, -k-/-g-, -k/-g/-x	k-/q-, -ø-(u, j) / -g-, -ø ~ -j, -u	x-, -k-(-g-) / -x- / -ø-, - ø
*χ	q-, -ø-, -k	x-, -ø-, -k	h-, -ø-/-’-/-j-, -k / -g / -x	$k^{(h)}$-/q-, -g-/-ø-/ -j-, -ø (-j, -u)	k-/x-, -g-/-k-, -k / -g
*-’-	-ø-$^{\text{3rd tone}}$	-ø-$^{\text{3rd tone}}$	-ø-	-ø-	-ø-
*h-	ø-	ø-	h-	ø-	?

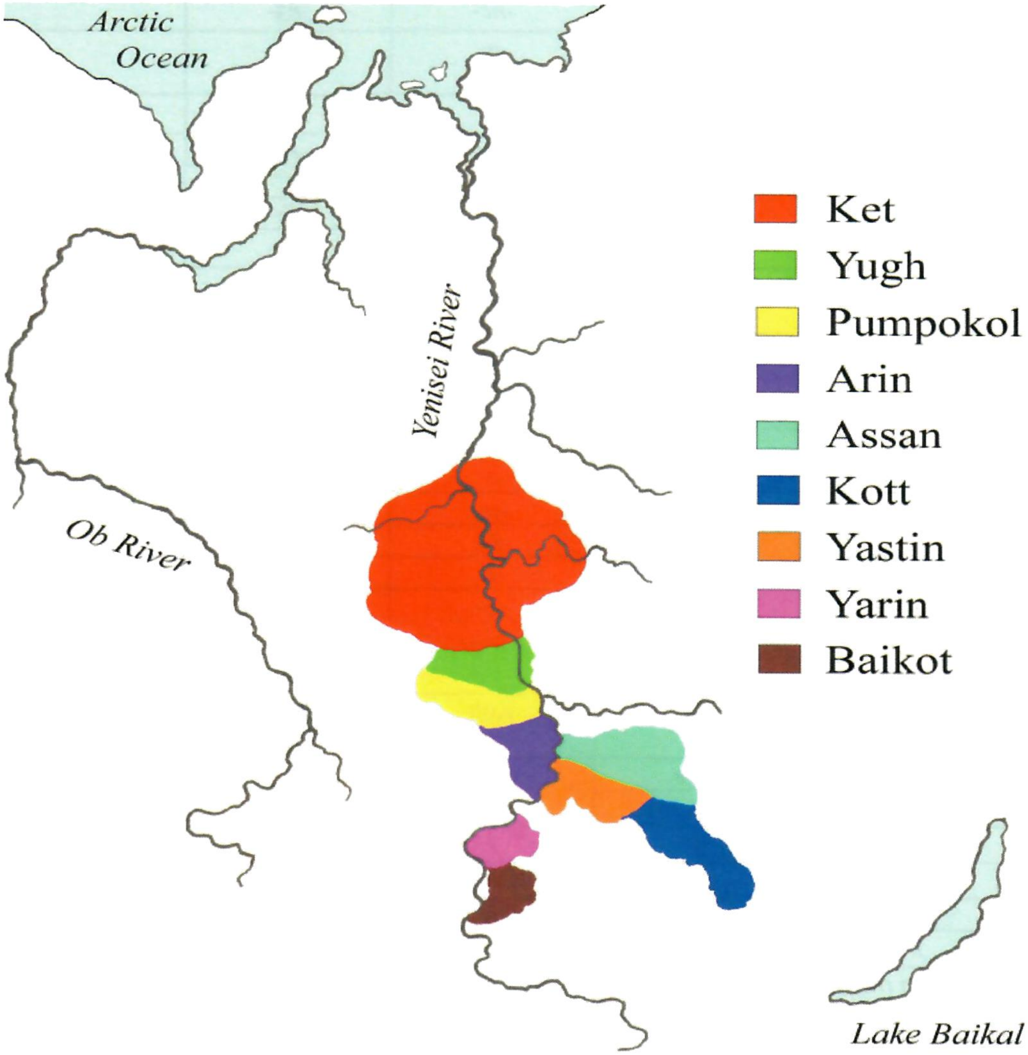
B. Consonant clusters

Yeniseian	Ket	Yug	Kott	Arin	Pumpokol
*-nt	-t-	-t-	-nt-	-t-	-(l)d-
*-nd-	-nd-			-nd-	
*-mp-			-mp-	-mb-	
*-ŋg-	-ŋ(g)-	-ŋ(g)-	-g-		-k-
*-ŋk-	-γ-	-g-		-ŋ-	-n- (?-ŋ-)
*-ŋq-	-R-	-x-	-ŋk-		
*-ns-		-s-	-nč-	-nǯ-	
*-nč-	-nt-		-nč-	-nǯ-	
*-rg- (~ -lg-)	-ĺg-		-g-		
*-rb-	-ĺb-	-lb-		-nb-	
*-rk-			-rg-	-rg-	
*-lp-			-lp-	-lp$^{(h)}$-	-p-
*-ŕg-	-jg-			-lk-	-lk-
*-ŕb-	-ĺb-		-jp-	-lp-	
*-ŕk-	-ll-	-rx-			-lx-
*-jt-			-t^{h}-	-jt-	
*-jb-	-jb-	-jb-	-jp-		
*-jm-			-jm-	-m-	
*-ks-	-kś-	-ks-	-tč-, -č-	-šč-	
*-gd-	-gd-	-gd-	-r-	-tk- (?-t-)	-tk-
*-qt-	-qt-	-xt-	-t-	-tt-	
*-tp-	-tp-		-p-		
*-st-			-št-	-st-	
*-tt-	-tt-		-t-		
*-ss-	-ss-		-č-		

C. Vowel correspondences

Yeniseian	Ket	Yug	Kott	Arin	Pumpokol
*i	i	i	i / e	i (/a, e)	i (/e, a)
*e	e / ε	e / ε	e / eä	i (/e, a)	a (/a, e, i)
*ä	a	a	e	a	?a, e, o, ɨ
*ɨ	ɨ	ɨ	ɨ	e (/i, a)	i (/ɨ, a, o)
*ə	ъ / ʌ	ъ / ʌ	i / a / e	a (/u, o, i, e)	a / o (/i, ɨ, u)
*a	a	a	a	a (/o, e, i)	?i / o
*u	u / ɨ	u / ɨ	u	u (/o, i, e)	u (/o)
*o	o / ɔ (/u)	o / ɔ	o	o (/ u)	o (/u)
*ɔ	o / ɔ	o / ɔ	a	o (/a, u)	a

Map of the Yeniseian Family (Santa Fe Institute)[1]


Arctic Ocean
Yenisei River
Ob River
Lake Baikal
Ket
Yugh
Pumpokol
Arin
Assan
Kott
Yastin
Yarin
Baikot

---

[1] Note that all the languages are extinct, except the first two (Ket, Yugh). The others are shown in their historic locations [Ed.].

MOTHER TONGUE
Journal of the Association for the Study of Language in Prehistory • *Issue XV* • *2010*
Fifteenth Anniversary Issue • 1995-2010

The Eight "Blood" Etymologies in Afrasian: And More

Harold C. Fleming
Gloucester, Massachusetts

Preface. The condition of the Afrasian (Afroasiatic, Hamito-Semitic) phylum or family of languages is reasonably good in terms of individual language descriptions and the general taxonomic status of the phylum. While details of the internal taxonomy (classification) are still being worked out, this is partly due to the continuing increments to the southern reaches of the family, especially in Chadic and Omotic. Some of the new members force changes in the prevailing taxonomy (*e.g.*, Kujarge in East Chadic, Jiddu and Boni in the Somaloid cluster of East Cushitic) or, accumulating in certain regions, force overall adjustments in Afrasian taxonomy (*e.g.*, Omotic separating from Cushitic and becoming a coordinate to the rest). One new member, Ongota of far southwestern Ethiopia, has forced or encouraged a stronger revision of Afrasian taxonomy which perforce recognizes the increasingly great taxonomic weight of the southern realm of Afrasian, especially East Africa. It is now very difficult to imagine that the prototype of an old Afrasian would be a Levantine farmer or a Babylonian priest; the Asian part of Afrasian is steadily shrinking.[1]

As an entity Afrasian has not enjoyed the efforts at reconstruction that Indo-European has benefited from. Not only do far fewer scholars work on Afrasian, but also the partially unsettled membership and description has hindered Afrasian efforts. For reconstructions and external comparisons Afrasian has been distorted by a tremendous overemphasis on the more or less settled areas like Semitic (especially Akkadian, Hebrew and Arabic) and Ancient Egyptian. And for this reason few of the attempted reconstructions of proto-Afrasian have been successful because of the overemphasis on the "solid verities" of the northern languages, including the stress on hoary antiquity which Afrasian has more of than any other phylum in the world. Which languages are taken for examples (possessing the cognates in question) is also involved. Put it another way; the samples of languages used often differ considerably and so do the results. Two recent efforts by a Russian group (Olga Stolbova, et al.), and Christopher Ehret produced such different results that Joseph Greenberg told a colleague that he had never seen two such different reconstructions of the same family!

Therefore I presume nothing about previous reconstructions in this paper. Proto-Afrasian has yet to be reconstructed convincingly and thus we are writing on a blank slate here.

What I attempt in this article is to present a series of etymologies aimed at proto-Afrasian or significant nodes of its descent taxonomy (*e.g.*, proto-Saharan, proto-

---

[1] The usage of names such as **Semito-Hamitic** or **Hamito-Semitic** is becoming less and less apt each year. The first term which is favored by many Russian linguists is doubly inept because (a) Semitic is not even close to being half of the phylum and (b) the usage fails to honor *Igor Diakonoff* who pioneered the name **Afrasian**. For similar reasons the second term is inept. As others have suggested why not call the whole family **Hamitic**, since eight out of nine lineages are found only in Africa?

Cushitic, etc.). The frank and open emphasis will be on the southern realms of Afrasian, but without excluding the northern which remain very important. It is hoped that this article will be useful to others who will attempt the fine overall reconstruction which this remarkable phylum deserves.

The logic of this is simple: were a term to be limited to one branch, it could be considered a local innovation easily. It can be traced no farther than the node it comes from, *e.g.*, proto-Cushitic, proto-Semitic, etc. Were it to be found in two branches and not seem likely as a borrowing then the node it comes from is the one common to the two branches. So something found in Omotic and Semitic can easily be attributed to proto-Afroasiatic, while something common to Chadic and Egyptian, for example, can only be referred to proto-Erythraic. Finally, when a term is found only in one branch, *e.g.*, Omotic, but is also found in an external (non-Afrasian) family, *e.g.*, Elamitic, then the term is inferred for both proto-Afrasian and whatever overall taxon that happens to include Afrasian and Elamitic. For example, Nostratic. Holding a term in common does not necessitate incorporating Elamitic in Afrasian, as some have suggested, or Afrasian in Elamitic, or a special relationship for them.

The compact version of the internal taxonomy of Afrasian may be useful for contemplating the prehistory of any given etymology. It is, as follows

A New Afrasian Taxonomy (Fleming 2005), Incorporating Ongota.[i]

Moiety A: Omotic:
- Phratry A, Somotic
- Phratry B, Nomotic
  - Lineage A, Dizoid
  - Lineage B, Mao & ta-ne
    - Clan A, Mao
    - Clan B, ta-ne
      - Family Gongan
      - Family Gimojan

Moiety B: Erythraic
- Phratry A, Ongota
- Phratry B, Cushitic
  - Lineage A, Agau
  - Lineage B, Eastern
  - Lineage C, Southern
- Phratry C, North Erythraic
  - Lineage A, Semitic
  - Lineage B, Ancient Egyptian
  - Lineage C, Saharan or Libyan
    - Clan A, Berber
    - Clan B, Chadic
      - Family A, Eastern
      - Family B, Central
      - Family C, Western

Note: Beja is located at the interface of Chadic and Cushitic and is either *Phratry D of Erythraic or Lineage D of Cushitic, the latter being its traditional classification. On the Chad-Sudan border *Kujargé* is a new sub-branch of Chadic or transitional to Beja from East Chadic.

For an example of a kind of problem given to reconstruction by taxonomy we may turn to one of the most conservative meanings that one encounters – **"die."** After examining the data from 180 Afrasian languages, with all the nodes represented, we find that one form, something like **[*mwt],** is totally dominant in three lineages, Semitic, Egyptian, and Saharan (Berber plus Chadic). Only the occasional language lacks this cognate, the only remotely salient exception being Modern South Arabian (*Jibbali, Mehri*, and *Soqotri*). So **[*mwt]** can easily be assigned to proto-North Erythraic, since it is nearly universal in all three lineages of that Phratry .

But wait a moment! Nearly everyone who tries to reconstruct proto-Afrasian or uses proposed proto-forms has confidently included **[*mwt]**, or its look alike, in their proto-Afrasian. And one might link Afrasian's **[*mwt]** to **proto-Indo-European's [*mer]** and thus move this form up to the Nostratic node[2]. Still there are reasons for trying to do that. It would justify proposing this common North Erythraic form for the proto-Afrasian node. But derivatives of **[*mwt]** are *quite lacking* in (a) the rest of Erythraic and (b) Omotic. Its not being found in Ongota could simply be due to a lack of data[3] but its absence from Cushitic is a much more serious matter. In the Somaloid branch of East Cushitic are two forms which might be cognate with **[*mwt].** One is found in *Rendile* as **[a-muut]** and in *Garree* as **[umaw]**, while the other form **[d'im-t]** is found in *Somali proper* and *Jiddu*, also in *Rahanwein* as **[d'im]** and *Benadir* as **[d'im-at]** and *Baardheere* as **[dimo].** Two intriguing exceptions are *Boni* with **[awad]** where the **[w]** could be from **[*m]** and Yibir **[midi]** which would fit into **[*mwt]** but changed semantically to 'lie down, sleep'. Strictly speaking, *Yibir* is not a member of the Somaloid cluster but either a jargon or a survival of pre-Somaloid languages in the Horn.

While the Somali form **[d'im-t]** can be rejected as an unlikely cognate, and the Boni **[awad]** as interesting but not decisive, the Rendile form cannot. Nor is it a likely borrowing from Arabic since Rendile stands to the west of the areas of Arabic and Islamic influences in East Africa; and it is south of the Semitic Amhara of Ethiopia; it has few Semitic borrowings and a native 'pagan' religion.

When we look into associated meanings, like 'sleep', 'kill', 'lie down', something like the **[*mwt]** does not show up in most Afrasian languages, including most of those in North Erythraic. Of the few that do perhaps the most striking is Old Epigraphic South Arabian or Sabean where we get **[ˀmt]** for 'lie down, have intercourse'. This along with Yibir's **[midi]** for 'lie down' and Rendile's **[a-muut]** give us a basis for concluding that this cognate can reach the Erythraic node. And that seems to be the limit, i.e., **[*mwt]** is an *innovation* in Erythraic, unless we can find a semantically plausible counterpart in Omotic or in some outside phylum.[4]

---

[2] I have not searched the literature to see if someone has actually done this.

[3] But Ongotan data as published already exceeds 1000 items, with more coming in from the research of Sava and his colleagues. Most Afrasian languages fail to reach that standard, although some , of course, far exceed it.

[4] It may seem illogical or unseemly to 'elevate' Omotic or Ongota to the role of potentially decisive factor in taxonomic decisions. After all that has been the traditional role of Semitic in Afrasian! Yet the logic of our taxonomy clearly dictates that Omotic and Ongota have such roles in their respective levels; both are moieties or major phratries with respect to their next of kin. One may reject the taxonomy itself and return to the Greenberg classification of 1963 with its five equal branches, akin to Indo-Germanic with its ten or more equal branches. But since that date five out of seven scholarly attempts at internal taxonomy, including Geenberg's second effort, have discarded the five equal banches and proposed secondary nodes. And the two others of the seven added Omotic as a sixth branch. See the summary on pages 145-148 of Fleming 2006. Ehret's classification of 1995 is virtually identical.

Getting Down to Cases

We begin with a series of etymologies involving "blood".

1) BLOOD-1 This is found in Greenberg 1963 and embraces Chadic (four branches) and Cushitic (three branches). The ancestor was clearly either ***b-r-** or ***b-l-**, all in the meaning of 'blood'. Furthermore Paul Newman proposed this etymology for proto-Chadic. In the associated meaning of 'red' it is found at least in the Galaboid or Arboroid group of East Cushitic as ***bur-**, the Dullay group as an archaism (Warazi **poore** < **boore** 'red brown skin'), and the Shinasha group of Gongan of Nomotic as ***bir-** and **biira** 'red', right next to Awngi of Agau's ***bri** or ***bîri** 'blood'. In closely related Kafa of Gongan it is found as **bura** 'blood price' or 'wergild', making it less likely to be borrowed from Cushitic.As 'red' it occurs sporadically in Chadic also but no one proposes it as 'red'for proto-Chadic.

BLOOD-1 finds itself in the middle Afrasian distribution and was probably a very old Erythraic innovation. It also counts, of course, as an Afrasian etymology, being found in at least two sub-phyla, albeit very weakly in Omotic.

2) BLOOD-2 This has about as good a distribution but is troubled by the borrowing problem – from Semitic, as well as an unbelievable presence in Somotic. The ancestor in Semitic was no doubt ***d-mm** and it would be the same in Berber, if it was not borrowed from Arabic or Punic. Since this form is universal in Berber, it does not have to be a borrowing from Arabic. The ***d-mm** form has been replaced in Modern South Arabian by ***ðor**. In Chadic forms like **dom/tom/rom/zom** for 'blood' are found in West Chadic; it is hard to explain from Arabic influence. Double final [**-mm**] is infrequent or rare, except for an isolated Central Chadic form, Bachama's **zambe**, Bata **jambe / yambe** which is very interesting from an Omotic standpoint. While both Cushitic and Nomotic lack the **d-mm** cognate, Somotic has two contrasting words for 'blood'. One is ***mâk'âs**, while the other is ***zomp'-** or **zumb'-**, alternating with **zum^{ʔ}i.** Dime, however, has **dzum-u / zum-u** in an archaic form for blood from the neck of cattle. Both the first and second Somotic forms can be traced to proto-Somotic. But not to proto-Omotic. If the Somotic forms and the Bachama are cognate with each other, they argue that proto-Afrasian would not have been ***d-mm** but rather something like ***dz-mb'** which became ***d-mm** in Semitic. . . . Bits and pieces of BLOOD-2 are found as 'red' in Agau (Awngi **dîmmi**), Highland East Cushitic (Sidamo **dume**), Oromoid (Oromo **dima,** Konso **tiim**), and South Cushitic (Qwadza **dimayi**). It appears also as 'pulse' in Agau (Quara **deŋa)** which is known to be from ***dema**. A probable survival is found in Middle Egyptian **1dm1** "red linen" which was probably heard as *^{ʔ}**âdmâ**^{ʔ}

BLOOD-2 has a wide distribution all over Afrasian, but in bits and pieces. This seems to be consistent with an ancestor in proto-Afrasian itself, rather than a later one. Not everyone agrees that proto-Semitic had ***d-mm** for 'blood'. It is often cited as ***d-m**.

One offshoot of the search for this etymology is the remarkable discovery or coincidence of Semitic's hoary Akkadian **tant-m** 'blood-pl' and Nomotic's newly known Mao in **tant-** 'red' (Sezo, Hozo and Madegi). Is this a coincidence or cognation?

3) BLOOD-3 This has a limited distribution but, if it is true, quite enough for it to be linked to proto-Afrasian. For it reaches from Ancient Egyptian **snf** and Coptic **snop-ti** to Somotic ***zump’-** (as listed above). This connection has been suggested by others besides myself but I forget who they were. Of course, Chadic’s Bachama **zambe** would also be included. Jungraithmayr mentions the Bachama connection too. Again isolated within its group in Nomotic we have Grottanelli’s Gebsi of Mao with **šeembi** ‘red’, although we do have Ari [**zomp’i**] “blood’ s well as Dizoid [**sub-/sum-**] also meaning ‘red’. If the link Egyptian to Omotic is real, then the Somotic membership in the ***d-mm** etymology above is no longer valid.

4) BLOOD-4 This is nearly universal in East Cushitic, being absent only in the far north (Saho, Afar) and the far south (Dasenech). It is difficult not to see ***d’iig’** as an innovation which comes close to defining East Cushitic. Its absence from both Agau and South Cushitic is nearly absolute, as far as I can tell, except for Dahalo where it seems most likely to be a borrowing from Somali or Oromo. The East Cushitic distribution of ***d’iig’** ‘blood’ is surrounded by an old root for ‘red’ which has come to mean ‘blood’ in the Rift sub-group of South Cushitic. We will call it BLOOD-5.

5) BLOOD-5 As ‘blood’ this is confined to Iraqw, Gorowa, Alagwa and Burunge. All other members of South Cushitic, except Dahalo, have BLOOD-8 instead of this form. As ‘red’ BLOOD-5 is nearly universal in Agau, as follows: (Awngi lacks it), Dembea **tsara-** , Qemant **sara-** , Khamir **ts’ir / zir**, Khamta **sâro**, Bilen **sara-ux.** (Glottalized [**ts’**] has become rare in Agau).
In Dahalo recorded several times by highly competent field workers, we have ‘red’ as **ts’írara**$^?$. It is absent in Mbugu, Asa and Qwadza, changing then to ‘blood’, as follows:
Iraqw **ts’eere**, Gorowa **ts’eere**, Alagwa **č’eere**, Burunge **č’eede**.
As has happened a number of times, Ehret and I discovered this independently of each other; he was the first to publish it, however. It is likely that the “red” meaning is earlier than the “blood” in this case.

6) BLOOD-6 This is the third Chadic root to be linked elsewhere Jungraithmayr gives it as ***b$_2$z** or just **bz**, while Newman does not list it. It is associated primarily with Central Chadic, i.e., the Biu-Mandara and Masa branches, but is also found in East Chadic. I have not found it in other branches of Afrasian, except for a very few cases in Omotic. In Ari of Jinka, as recorded by Tully, **bisa** means ‘menstrual blood’. This is rather special because it is the only case of such a word in the Ari group (Somotic) where a taboo is in force against the topic of menstruating females; euphemisms such as ‘she broke her leg’ are used, often because the female occupies a menstrual hut for a time. In Hamar there is the ‘red color of sky’ or simply ‘sun rise, sun set’ **beezi** which might be focused more on the color of the sky than on the time of day.

7) BLOOD-7 This is associated with the non-conformist Modern South Arabian ***dor / *ðor** ‘blood’. Besides being linked to an outside super-phylum, represented by Burushaski’s /**del**/ ‘yolk of egg’ and Basque’s /**odol**/, it is probably cognate with one or more Omotic words, such as Somotic: Galila: **šoor-** ‘bleed from the nose, nose bleed’.

Galila's [š] is clearly from [*s] as a regular rule. The main reason for including this etymology is its *potential.* Being connected to an outside phylum and with possible linkage of Somotic and South Arabian may lead to more links. Well, we can add another potential cognate, viz. Afar [**durú**] 'dissanguato, bloodless, bled out, exhausted', as recorded by Arpino.

8) BLOOD-8 This is associated with three major descent lines, including both moieties of Afrasian, has been borrowed in one Nilo-Saharan branch, and is present outside of Afrasian as a cognate, not a borrowing, in Eurasiatic. Its evidence is, as follows:

Ongotan: Ongota **šoxo** 'blood'
East Cushitic: Yaakuan **sogo/sog'o** 'blood' Yaaku
South Cushitic: Mbuguan + Rift
sako / saxó 'blood' Ma$^?$a (Mbugu)
-sakó 'to bleed' Ma$^?$a (Mbugu)
sa$^?$u < *sak'u 'blood' Qwadza
***sak'-** 'blood' proto-S.C. (Ehret 1980:179)
Nomotic: Ta/Ne group: Gimojan
sugu-ts 'blood' Male
suu-ts 'blood' Basketo
suu-ts 'blood' Oyda
suu-tsa 'blood' Malo
su-č < *su-ts 'blood' Dorze
su-tsi 'blood' Koyra
suu-ta 'blood' Chara
sut ('glued on' /**t**/) Gimira
Perhaps irregular: Mao: Sezo-Hozo group **ší$^?$i** blood, sweat Hozo < ***sik'i**
šiik'i 'sweat' Sezo (SLLE)
Gimojan: **še$^?$a** 'red' Yemsa (Janjero)
but Nilo-Saharan: East Sudanic: Kuliak
se 'blood' Nyangeya
se$^?$ 'blood' Tepeth
sea 'blood' Ik
***seh** 'blood' proto-Kuliak, which in turn is a likely borrowing from early Afrasian, most likely Omotic.
But see also Nostratic (Starostin 1984)
***s-x- / *-sx-** (including) ***sag** 'blood' proto-Altaic;
and also in Karl Bouda (1960:403)
tsox / tsux 'blood, sap, juice' Gilyak

Before he died a few years ago, Karl-Heinrich Menges expanded greatly on this etymology in the Eurasiatic part of 'Nostratic'.[5]

---

[5] Both Yemsa and the Mao group lack the nominal suffix /-**tsV**/ or /-**tV**/ which I separate from the base in the Gimojan forms cited. Whether the suffixes are singulatives or noun formants from verbs is not yet clearly known, partly because they are glued on in many cases, but the probability of their being suffixes can be shown from the following examples:

The Two “Bone” Etymologies in Afrasian

9) BONE-1 This was established in 1963 in Greenberg’s Afroasiatic, as follows: Egyptian **k’s**, Berber **i-xs**, Chadic: Hausa **k’aši**, Karbo **kaaso**. Newman later found this root to be widespread in Chadic and proposed it for proto-Chadic, as did Jungraithmayr and his colleagues in **k’s**$_3$ who also showed many examples of initial loss of [**k’**-] resulting in numerous forms with initial glottal stop, usually not recorded by field workers, resulting in forms like Jegu **aso**, i.e., **ˀaso**. Dolgopolsky and others, as reported by Jungraithmayr, proposed links with Semitic ***ᶜaum-** ‘bone’ and an alleged Cushitic form ***k’Ač’** or ***k’Ač’č’** or ***mA-k’k’Ačč’** ‘bone’. Dolgopolsky et al.’s forms are herewith rejected as arbitrary and tortured surmises and reconstructions. The proper cognates of the initial ***k’s** set above are indeed found in former West Cushitic, now Omotic, but in simple forms much like those of Chadic. I do not believe that the etymology can be extended to Semitic at all, nor to Cushitic with one small but interesting exception. The misbegotten final form seen above with prefixed [**mA-**] is actually a butchered version of BONE-2 (see below).

The initial ***k’s** set of Greenberg showed up in Omotic during field work in Ethiopia by Herbert Lewis and myself in 1959, although it took a while for this particular fact to be noticed. Then I found it again in two different places in 1972, and again in 1990 in other languages.

Its Nomotic presence is clearer; in the Dizoid moiety of Nomotic we find: Naˀo **k’us** ‘bone’, Shako **ˀus-us** ‘bone’, Dizi (Maji proper) **ˀus** ‘bone’, Dizi of Jeba **ˀúús-u / ˀús** ‘bone, skull’. It should also be in Dizi of Adikas but the data are missing for the moment.

Across the Omo river and valley, in Somotic, this cognate is found in Dime as **k’ûs** ‘bone’, North Dime as **k’oss**, and South Dime as **k’ôss**. Now the status of this in the rest of Somotic is particularly problematic because the Ari group and the Hamar group have replaced whatever their original word for ‘bone’ was, with an East Cushitic loan word ***lêf-**. So Dime is almost the only evidence of the original state of things. However, Hamar has **k’óósi** ‘elbow’, a bony thing in itself.

But the most striking piece of evidence is the likely presence of this cognate in Galab (Dasenech) as **g’âs** ‘foot’. Miyawaki also recorded **guus-ko** for ‘bone of leg’ in Tsamai but with a question as to its meaning. So far our data do not show this root elsewhere but it does not derive from old East Cushitic ***gaas** ‘horn’ which is very common throughout the area and takes the same form in Dasenech. However, a search in

---

‘breast’ with base form (Chara) **t’am- / d’am-** vs (Ometo) **d’an-tsV ;** `name' Dizoid Naˀo **sum** vs Ometo **sun-tsa, sun-t, sun- ;**`claw' Gimojan Chara **s’ug a** vs Ometo Malo **s’ugun-tsa ;** `lick / tongue' Ometo: Oyda **laˀane / ilˀan-ts.** Or in one language: Oyda of Ometo: **d’an-ts, mêk’ê-ts, ts’ugun-ts** or `breast, bone, claw'. The [**-ts**] acts like a bound form as suffix.The use of the suffix is more common and still productive in Kafa and its sister Gongan languages, albeit less productive in Ometo. Thus Kafa: **ari-** `know', **ary-ano** `ignorant, stupid' (knows-not), **ari-ččo** `knowing, sage' (either noun or adjective); **baato / baat-eččo** `leg, lower leg / pedone, fante, infantry'; **šikko / šikk-eččo** `knife, the king's sword / king's chief carver'; **t’ofo / t’of-eččo** `horn cup / cup bearer. Kafa [**č**] and [**čč**] regularly corresponds to [**ts**] in other Gongan (like Shinasha) and throughout Gimojan, except where others like Dorze have also changed ancestral [**ts**] to [**č**] or to [**t**] like Wallamo (Wollaita).

Arbore and El Molo may reveal a derivative of the old 'bone' root. Or perhaps in the Konsoid cluster of Oromoid.

10) BONE-2 This form is found in both Omotic and various Cushitic lines, probably also in Beja, and perhaps in a related form in Ongota and as borrowed into northern Khoisan, i.e., Hadza.

Note: There is a fair probability that the forms (here below) have a special palatalized variant, itself fairly widespread : It is also possible that the East Cushitic forms were borrowed later than proto-East Cushitic by early daughter languages proto-Highland East Cushitic and proto-Yaakuan from contacts with Nomotic. Somotic and the Dizoid moiety of Nomotic still retain proto-Afrasian **/*k'-s/.** Take note of:

East Cushitic: Yaakuan: Dullay
mik'a- 'bone' Harso (Warazi) (Amborn)
meq'a-te 'bone' Gobeze (Bender)
maR-te / mâqqe 'bone' Gawwata I (Black)
mîqqe 'bone' Gawwata II (Black)
míˀqe / **míg'e** Gobeze (Black)
meeq-te Tsamai (Hayward)
East Cushitic: Lowland
mêk'ê-ta 'bone' Bussa (isolated, loan?)

East Cushitic: Highland
***mik'e** 'bone' proto-HEC (Hudson)
mik'a 'bone' Alaba
mik'i-ččo 'bone' Sidamo
mik'a 'bone' Kambatta (Fleming)
mik'ee 'bone' Hadiya
mič'â 'bone' Burji (Fleming)

Somotic:
muRu <*muk'u 'knuckle' Dime
North Cushitic: Beja
miikwa 'femur, humerus, tibia' (Hadareb)
miikw-ˀol 'radius, ulna, fibula, bones of the hand or foot' (Hadareb)
South Cushitic: Dahaloan
mik'o 'collar bone' Dahalo (Sanye). It may be suspect as an early recording (Dammann 1950) but by a good field worker. It has not been confirmed but no one else has elicited 'collar bone' from informants.

Nomotic: Gimojan (but not in Chara or Gimira)
mega 'bone' Yemsa (Janjero) (Lewis, HF)
mâk'ê-ti 'bone' E.Ometo: Koyra (HF)
mek'e-te 'bone' E. Ometo: Gatsambe (CR)
mek'e- 'bone' C.Ometo: Dorze (Olmstead)

mik'ê-tsa 'bone' C.Ometo: Malo (HF)
mêk'ê-ts 'bone' C.Ometo: Oyda (HF)
migu-tsi 'bone' S.Ometo: Male (Donham)
mêk'ê-ts 'bone' W.Ometo: Basketto (HF)

Nomotic: Gongan
mêk'î-tsa 'bone' Shinasha: Bworo
mekke-čo 'bone' Amuru (Beke, 1849)

The two varieties in Highland East Cushitic appear to be due to phonetic change in Burji alone.

What is either a separate cognate or a palatalized version of this is found in Ongota and South Cushitic, including the 'regular' Dahalo form. Separate cognation is argued here for two reasons: (a) a form with a velar and another with the palatal co-exist in a few languages, and (b) the sound correspondences between Ongota and Dahalo discourage one from seeing an initial velar, but rather a glottalized palatal affricate. This is confirmed by the loan word in Khoisan Hadza which might instead be the source!

Ongota **mič 'a** 'bone'
East Cushitic: Yaakuan
muč'-o 'bone' Yaaku (Ehret)
East Cushitic: Proto
*****moč'**- 'bone' PEC (Arvanites 1991)
Agau: Proto or pre-proto
*****mats'** 'bone' (my reconstruction)

Based as follows: Nine Agau languages show [**ŋ**] which corresponds usually to [**m**] elsewhere in Cushitic or Afrasian; this is well-known. The [**m**] is ancestral. About half of the Agau languages have [**š**] corresponding to [**ts**] and [**ts'**] in the others. On comparative grounds the [**ts'**] is probably ancestral. The common Agau forms are / **ŋats', ŋats, nats, naš**/. Bilen has [**naž**], a voiced version of [**š**], suggesting the ancestor differs a bit, i.e. might have been ***maj'**

Perhaps North Cushitic:

mita / ti-mita 'bone' Bisharin
miitaat 'bone' Beja of Imera. Since it is a feminine noun, the root should be **/miita/.** Since Beja lacks glottalic consonants, except in a few Ethiopic borrowings, its plain consonants often have glottalic mates elsewhere.

South Cushitic: Dahaloan
mitl'tl'-o 'bone' Dahalo which maybe borrowed from Hadza (Khoisan) /**mitl'a**/ 'bone' and/or Hadza /**mutl'u**/ 'rib' or vice versa, since both are isolated. However, Ongota and Dahalo show the / **č'**/ vs /**tl'**/ correspondence discussed later, making it more likely that Hadza borrowed its form from an early South Cushitic.

Final note: The conclusion probably is that the two forms are independent, since both varieties exist in Beja, Yaakuan and Dahalo at great distances from each other in space and time.

Dominant 'Four' and a Somewhat Lesser One

11) FOUR-1 This form was proposed by Greenberg in 1963; it united only Chadic, Egyptian, and Cushitic. In Chadic it is present in scores of languages from east to west, exemplified by Hausa **fud'u,** Musgu **podu**, and Mubi **fad'a**. More importantly, we note the Chadic forms such as Sura **fêêr**, Yiwom **prôˀ**, Lele **poorii ,** and Wandala **ufade**. In Cushitic FOUR-1 is found in only two parts of that very diverse sub-phylum, as **faDig** in Beja and as **ferei** in East Cushitic Afar and as **afar / afur** in the Somaloid and Oromoid clusters of East Cushitic. It is absent in Agau, Yaakuan, HEC, and South Cushitic.

Although Berber and Semitic clearly lack this cognate, despite heroic efforts by Dolgopolsky to stuff Semitic ***arbaᶜa** into it, there is true uncertainty about the situation in Omotic. Some have tried with only partial success to encorporate a common but variable form in Nomotic. It requires us to believe that an initial [**b-**] or [**w-**] corresponds to the [**f**] and occasional [**p**] of Chadic and the others. But that is, after all, not a very long stretch. The examples range from **oydd-** in Ometo to **awdd-** in Gongan and culminate in Chara's **obda**. Some of the Ometo forms are also found in Somotic, possibly as loan words, but Dime at least has **uddu** which seems more independent.[6]

Without deciding about the Nomotic forms -- for a spell --, we have recently discovered that several forms exist in the meaning of '1/4' or 'a quarter' and look to fit FOUR-1 rather better. They are limited in number for a simple reason; these ordinals and fractions are less commonly recorded by field workers than the other numbers. Take a look at these Gongan and Gimojan forms!

Mocha **ßèèč'o /pèèč'o/** 'quarter, fourth' (Leslau), alongside regular Gongan '4' **awuddo**. In Kafa the initial consonant has changed to [**h-**]. Oddly enough, Cecchi reported in 1887 that '4' was **baodo**, while 'fourth' was **bod-ino**. It is not clear where Cecchi's forms lead us!

Yemsa (Janjero) has **hačeč** for 'four' but no glottalized consonants save an occasional velar. It is tempting to relate that to Chara **heeč'a** 'quarter' (fraction).Yet neither of these have changed original [***f**] to [**h**].

Furthermore, in another source of reflexes of 'four', it is very common in Omotic to form '9' out of '5' + '4'. Then usually to drop '5'. Chara has **bija** which compares closely to **obda** 'four'.

The Mocha form has the best fit with FOUR-1 of all, with the south Gongan [**č'**] corresponding to proto-Gongan [**ts'**] and Chadic [**d'**].. Yet the ordinary Mao words for 'four' are not far behind. Between the two moities of Mao we have **bets'e** versus **mets'e** with most of them allowing the first form as an alternative to the second, but not the other way round.

These forms give us a basis for supposing that Omotic also contains Blood-1 but with phonetic troubles adhering to the reconstruction. In this the most conservative

---

[6] These forms are almost as unlikely as Dolgopolsky's attempt to encorporate Semitic *arbaᶜa in *ufad'ig . Besides having to postulate metathesis of [r] and [d'], while linking [b] with [f], one must link the pharyngeal with the velar. But [g] = [ᶜ] is not at all well supported in Afrasian. Then to reconstruct the probable ancestral form requires an heroic imagination.

Afrasian number Omotic is quite distinct from both Ongota and Cushitic, which differ also from each other except for the strange matter of FOUR-2.

12) FOUR-2 This has a limited distribution in the southeastern realm of Afrasian but has an excellent claim to be an early Cushitic innovation which seems to be cognate with Ongota's form which is not easily brushed aside as a borrowing from Dullay. Consider these striking sound correspondences.

Dahalo '4' /**sa^{c}ale**/. It is probably very close to proto-East Cushitic, the main associates being Dullay /**salaH**/ and Highland East Cushitic /***soole**/. The form is missing in South Cushitic and cannot be derived from Lowland East Cushitic /**sagal**/ '9'. Ongota has **talaHa** which is obviously related but not easy to treat as a loan.

In FOUR-1 in Beja the [**D**] or delta stands in for a retroflex [**d**] which is not glottalized. It is usually written as [**d**] with a dot under it which is a typical error made by Semiticists imposing the letters for 'emphatic' sounds on the glottalized or merely retroflex sounds of Cushitic and most of Ethiopic Semitic too, for that matter. Afar [**d'**] and that of Somali are much more lenis than that of, say, Oromo and are frequently missed by field workers.

STONE, SAND, and sometimes MOUNTAIN

13) STONE-1 There is no entry for 'stone' in Greenberg's 1963 summation, nor are there any generally accepted Afrasian etymologies that I know of. What we are dealing with here are 'stone' etymologies which show something else, to wit, either the separateness of one group from another or the connectedness of two or more groups such as to show fairly clear sound correspondences.

Assuming for the moment that the semantic range of 'stone' cognates often embraces 'mountain', 'hill', 'breast' (by extension from mountain), 'sand' (small stones), and other concepts, our search can be a bit broader semantically than it has been.

There are three bilateral connections which must have appreciable age but not great age. First is between Chadic and Beja, as follows:

	East Chadic:	Jegu	$^{?}$**óóyé**	'rock, Fels' (large stone)
		Mubi	**wii**	'stone'
	West Chadic:	Daffo	**hayi**	'stone'
		Sha	$^{?}$**aya**	'stone'
		Kulere	$^{?}$**ayii**	'stone'
		Geji	$^{?}$**ye**	'stone'
and	Beja:	Bisharin	$^{?}$**awê**	'stone'
		Hadendiwa	$^{?}$**awê**	'stone' (including Imera, Hadareb)

In an earlier work Newman gives two etymologies for 'stone', the one ***p-r-** and the other **(N)d-G-**. In a later work Jungraithmayr gives no 'stone' cognate for proto-Chadic.

14) The second is between Berber and Chadic, with both parties being quite isolated. Berber: Ait Izdeg **t-aggun-t** 'stone' and Central Chadic: Musgoi **gugun** 'stone', Daba **gugun** 'stone'

The third is between Chadic and Agau, again with comparative isolation. Central Chadic: Musgu **kiri** 'stone' as opposed to Agau: Awngi **karn** 'stone', Bilen **kri** 'stone', Khamir **kri-a** 'stone', Khamta **ker-a** 'stone'. Of course proto-Erythraic could be the common source of all three of these etymologies with proto-Saharan underlying the first one.

15) The true probable proto-Afrasian etymon for 'stone' is shared only by Egyptian and Omotic. That distribution is the strongest yet, *crossing the moiety division as it does* and involving Afrasian's oldest written records. Our candidate for STONE-1 is found, as follows:

Middle Egyptian	**š^{c}y** 'sand' (Faulkner)
Coptic	**šoo-pi** 'sand'
Nomotic: Dizoid	**ša$^{?}$i / šâ$^{?}$i** 'sand, stone' Shako
	šé$^{?}$ì / še$^{?}$i 'stone' Shako: Aklilu / HF
Gimojan	**šu$^{?}$a** 'stone' Yemsa (Janjero)
Mao	**šoa / šoowe** 'stone' Bambeshi
	šoowe-le 'mountain' Bambeshi
	šaawa 'sand' Bambeshi
	šóówê 'stone, rock, mt.peak'
Diddesa Mao	
	šawi 'stone' Sezo
	šakuwi 'sand' Madegi (M.L.Bender)
(Dubious)	
	šaawi 'stone' Madegi (M.L.Bender)
Gongan	**šiiya** 'sand' Shinasha Dangela
	šiya 'sand' Shinasha Wombera
Somotic	**šayi / šayy** 'sand' Dime (HF)
	šááyê 'sand' North Dime (SLLE)
	šaayo 'sand' South Dime (MLBender)

There are many other similar Nomotic forms but with problematic final syllables or suffixes perhaps, such as Basketto **šučč** 'stone', which do not fit the suffixing pattern found above in 'blood' or 'bone'. As in the case of proto-Nomotic ***č'uguč'** 'louse', the final segment is part of the root. One isolated Semitic form, [**ašâwa**] "sand" in Amharic and Chaha, and [**Hašâwa**] in Tigrinya, might be related. That Ethiopic form may itself be of Cushitic origin with those possibly members of this etymon. See. Hadareb-A Beja [**t-îssæ**] and [**æš**] both meaning 'sand', and Imera Hadendawa [**asse**] 'sand'. Forms similar to Amharic abound in Agau, although Dembea's [**ašo**] may be independent and hence indicative of Agau origin. Yet the Tigrinya form remains unexplained in that case.

16) STONE-2 This is more localized, but also a necessary proposal in order to appreciate STONE-3 which follows below. We begin with lamented but not late Paul Black, whose job-seeking led him to Australia and, alas, removed his great talents from Afrasian. When he came to the set of very similar forms for 'stone' in Cushitic, he realized that there were actually two different sets of cognates. One which was associated

with well-known Somali and Oromo threatened to conceal the second set. The first set is largely East Cushitic and is, as follows:

East Cushitic: Somaloid: **d’agaH** ‘stone’ standard Somali
dagaH ‘stone’ Rendile
d’akáá $^{e?}$ ‘stone’ Boni (Aweera)
Oromoid: **d’aga$^{?}$-** ‘stone’ pan Oromo
d’akaa ‘stone’ Gidole
d’áka ‘stone’ Konso

The second set is partly East Cushitic but reaches outside as well. Its primary sets are, as follows: East Cushitic: Northern Lowland group
d’aay ‘stone’ Saho
dhaa = d’aa ‘stone’ Assaorta Saho (Banti and Vergari)
d’aa / da / dahi ‘stone’ Afar (HF, d’Arpino)
Highland group
daha ‘stone’ Burji
South Cushitic: Rift group
tl’a^{c}a-nu / tl’a^{c}e ‘stone/pl’ Iraqw
tl’a^{c}u / tl’e^{c}e ‘stone/pl’ Burunge
tl’aa^{c}a / tl’a^{c}e ‘stone/pl’ Alagwa

What has been added to the second set more recently (Fleming, 2006) is even more interesting and carries it outside of Cushitic and back into Southern Lowland, i.e., Somali. The new data add these:

South Cushitic: Rift group
tl’ayi-ko ‘stone’ Qwadza (Ehret)
tl’a$^{?}$i-ko ‘stone’ Qwadza (Ngomvia)
de$^{?}$o-k [7] ‘stone, mountain’ Asa (Aramanik)
Ongotan: Ongota **č’a^{c}a** ‘stone’
East Cushitic: Lowland
d’a^{c}an ‘hearth stone’ Somali
d’a^{c}a ‘falling of a stone, the act of a stone falling’ Ogaden Somali (Abdi Sheikh-Abdi, personal communication 1994)

Note: a rare piece of evidence showing correspondent sounds among South Cushitic /**tl’**/, East Cushitic /**d**’/ and Ongota / **č**’/; this goes a long way towards showing the separateness of Ongota from the others. The correspondents of this in Omotic would normally be from /***ts**’/. In Semitic they would be either /t̲/ or from /***tl’**/.

---

[7] The Asa form is irregular in the sense that it does not fit the phonetic correspondences in South Cushitic in this etymology. However, Asa has not been reported to have the glottalized lateral affricate [**tl’**] which it must have changed to [**d**] in the past or Asa does not participate in this etymology.

TOOTH and sometimes BITE & CHEW

17) TOOTH-1 This was proposed by Greenberg 1963, linking Chadic, Berber and Semitic, represented here by Central Chadic Klesem **saani**, Mandala **tsaree**, East Chadic Mubi **siŋaŋu,** Kera **sande** ; Berber Siwa **a-sen**; and Arabic **sinn**, Hebrew **šen**. As such it was a bono fide candidate for proto-Afrasian, in terms of Greenberg's 1963 taxonomy or Erythraic in our present taxonomy. Since Berber Tuareg had it as **e-sin** 'incisor tooth', it was possibly a special kind of tooth in origin

Further research located it in West Chadic as well, where it is nearly universal in the South Bauchi group. In the other two branches of Chadic it occurs numerous times and is listed for proto-Chadic by Jungraithmayr.

Not only is it absent from Egyptian and all of Cushitic, including Beja, it is absent from both branches of Omotic, except in the very exceptional case of Nomotic Gimojan She **san.** for 'canine tooth', a special meaning as in Tuareg. Given the fact that words for special teeth are usually recorded much less commonly than generic ones, and canines least of all, there is little to compare the She with. However the most recent field research done by Klaus Wedekind has found it as one of two words for 'tooth' in Bencho, i.e., **san** opposite **gaš**. Bender also found it in Hozo and Sezo Mao as **šandi**. In both cases as 'molar tooth'.

18) TOOTH-2 This has a large distribution as the virtually universal term for 'tooth' in all major branches of Cushitic from Bilen in the north to Qwadza in the south. The basic modern form of its reconstructed ancestor is probably derived best by combining South Cushitic forms with Dullay to get ***ihlig'w**. The lateral fricative becomes [**r**] in Agau and [**l**] in East Cushitic. No dialect of Beja has it, nor anyone else outside of Cushitic, especially no Omotic language, nor Ongota. It seems clearly enough a very old innovation characterizing the Cushitic group.

Dolgopolsky recently tried to give this a Nostratic etymology by first tying it to a proposed proto-Semitic *** ikk-at-** 'thorn, pin, nail' and then to Altaic et al. There is nothing inherently unlikely about this proposal, although the semantics could be a bit more plausible and some correspondence between [**-kk-**] and [**-g'**] could be established. Dolgopolsky ignored the glottalization of the velar even though he cited the Dullay forms. He was mistaken to do that because his ancestral form is now mistaken. Forms like Somali **ilig** for example cannot be derived from a voiceless velar without comment. Moreover Semitic [**q**], the emphatic, is the true correspondent to Cushitic [**k'**].

19) TOOTH-3 This is based on a very striking match up between Omotic, both branches, and South Cushitic. That in itself would be enough to propose a viable proto-Afrasian form because the moiety line was crossed and remote Tanzanian cognates obtained. However, cognates in Semitic seem also to be involved. And Chadic. Possibly Berber too. And East Cushitic, where a regular correspondence of SC [**tl'**], EC [**d'**], Ongota [**č'**] and Nomotic [**ts'**] is almost realized.

We begin with the South Cushitic cognate:

Rift cluster **atl'-imo / atl'-o** 'tooth/pl' Burunge

By the expectations listed above we are not discomfited to find the Omotic cousins grounded in [**-ts'**], the probable ancestral form at least would have that in it. In Nomotic the glottalization is not universal but a marked piece of evidence in Yemsa suggests that it is ancestral, not the unglottalized forms. Thus in the major clusters of Nomotic we find: all meaning 'tooth'

Mao	Bambeshi Mao	**aats'ê**
	Diddesa Aga	**áâts'ê** (HF)
	Sezo Mao	**haats'i**
	Hozo Mao	**ats'i**
Gimojan	Chara	**ač'a**
	Basketto	**ačč-i**
	Kullo	**ačč-a**
	Malo	**ačč-a**
	Dorze	a**č** (Olmstead)
	Oyda	$^?$ačč-i (HF), **aač'i** (Bender)
	Male	$^?$**ači / ač'i / aači** (three sources)
	Yemsa	**ha$^?$a** (Cerulli), **ay$^?$a** (HF), **a$^?$ya** (Wedekind)
Dizoid	Maji	**aj-u** (Muldrow)
	Dizi-Adikas	$^?$**aač'u (HF)**
	Dizi-Jeba	**áč̲ʹu** (HF) (glottalized and retroflex)
	Shako	**ač'-u**
	Nao	**ač-u** (HF; dubious older rcording)

In Somotic it is universal, while in Nomotic it is lacking in Gongan, Gimira, and East Ometo. The Somotic forms are: (all meaning 'tooth')

Dime	**îts-u** (HF)
South Dime	**êts-o** (Bender)
North Dime	**hats-in** "to bite" (SLLE)
Galila (Ari)	**ači** (HF) < ***atsi**, by regular phonetic rules
Jinka (Ari)	**ats** (Tully)
Ubamer (Ari)	**atsi** (HF)
Hamar-Banna	**atsi / asi**
Kara	$^?$**ats'i** (Hieda)

Relatively hard to find in other Cushitic, it is found in three distinct groups of East Cushitic, viz., Saho **ád'a** 'back tooth' (Welmers) and Wallega Oromo **a$^?$oo** 'molar' (Gragg) where the retroflex stop portion of [**d'**] has been lost. See closely related Oromoid Konso **ad'o** 'cheek' and Gidole **ad'd'a** 'cheek'. Also Dullay Gollango ^{c}**ad'o** 'cheek, jaw'. It is probably also found in North Cushitic Beja as 'molar', as in Hadendiwa's **Da$^?$ / Daa-b** (pl) and Hadareb's **e-Dæ / e-ɽDæ** where **ɽ** is written to indicate retroflexness. The underlying form is probably [**ʈ**] or [**d**] with a dot under it, as in Indic tradition.

What is involved in Semitic is the verb 'to grab with the teeth, to bite' in modern Arabic ^{c}**add** (Syrian, Egyptian, Modern Written Arabic) and Moroccan Arabic ^{c}**edd**; it also shows up in Berber (Tuareg **added**) where it can be suspected of being borrowed from Arabic but also in Senhayi ^{c}**aṭš** 'to bite', less likely to be borrowed. Wargla also has **d:d** 'to bite' which is unclear both phonetically and historically. Interestingly enough, were the word to be present in Ethiopic, it would be ***ač'č'-** in Amharic and ***as's'-** in northern Ethiopic. This by the rules given by Leslau for 'reap, mow' in his Geez dictionary.

In a new development (February 2002) this root has been found in Chadic under the label of '(to) eat (hard things)' as opposed to eating soft things. The list is taken from Jungraithmayr and Ibriszimiw (Vol.II, 1994, 118-9).

(West Chadic)Hausa **had'iyaa** 'swallow'; Tangale **had'e** , Dera **ad'** , Karekare **had'**; Kirfi **ad'd'-wo** ; (East Chadic)Kera **herd'e** ; Mokulu $^{?}$**ad'd'i** ; Birgit $^{?}$**ad'd'i** . (Tones present in the original are not shown herein.)

We thus establish correspondences between Arabic [**dd**], Chadic [**d'**], South Cushitic [**tl'**] , East Cushitic [**d'**], and Omotic [**č'**] and [**ts'**].

In a wonderful anomaly both TOOTH-2 and TOOTH-3 were borrowed into a set of Nilo-Saharan languages in northern Uganda. Those called Kuliak by the researcher, Bernd Heine of Cologne, have TOOTH-2 in something very close to its proto-Cushitic form which is virtually identical to its South Cushitic form. The evidence is, as follows:

Kuliak: Nyangeya	**ehlegw / ehlegwad**	'tooth / pl'
Tepeth or So	**ilog / ilgwe**	'tooth / pl'
Ik	(absent)	
proto-Kuliak	(absent, probably because of Ik)	

But for TOOTH-3 the evidence is stronger, as follows:

Kuliak: Nyangeya	**aj**	'to chew, eat'
Tepeth or So	**ajaj**	'to chew' (reduplicated form)
Ik	**ats'**	'to chew'
proto-Kuliak	***a č'**	'to chew'

It is very reasonable to submit that the Nyangeya and So consonants had earlier been [***j'**] the implosive counterpart of [**č'**].

TONGUE AND ITS ACTIONS, especially LICK

20) TONGUE-1 This was established by Greenberg in 1963. It was found in four of the five branches he then proposed; only Cushitic lacked it. The exemplary citations would be: Chadic: West: Hausa **ha-rše / ha-lše** [8], Chadic: Central: Musgu **alesi**, and Chadic: East : Mubi **lisi**; Berber **ils**; Egyptian **ns**; and Semitic Arabic **lisaan**, Hebrew **lôšon**. This was one of his best Afrasian etymologies, straight-forward and phonetically simple.

---

[8] Note that Greenberg did not specify the segmentation of the Hausa form into **ha-** + **rše**. I do it because some other Hausa forms cannot be properly understood without such segmentation. A Nomotic language, Chara, presents a remarkable coincidence of forms.

More recent research has fortified TONGUE-1 in Chadic where both Newman and Jungraithmayr propose it for proto-Chadic.It has also been found in former Cushitic, albeit the Omotic sub-phylum and as a verb rather than a noun. Finally, in a piece of luck it has been found in Ongota in a very specialized meaning which normally would not have been discovered until advanced dictionary type work was being done. The evidences are, as follows:

- Chadic: Western
  - **(ha)-lše / -rše** ‘tongue’ Hausa
  - **líís** ‘tongue’ Sura
  - **lusù-** ‘tongue’ Karekare
  - **lîs** ‘tongue’ Daffo
  - **laši** ‘tongue’ Guruntum
- Chadic: Central
  - **elesi** ‘tongue’ Musgu
  - **nhli < *nŝi** ‘tongue’ Logone
- Chadic: Eastern
  - **lees-o** ‘tongue’ Jegu
  - **ˀilzé** ‘tongue’ Mokilko
  - **lísí** ‘tongue’ Mubi
- Berber:
  - **i-lâs** ‘tongue’ Siwa
  - **eči < *elsi** ‘tongue’ Zenaga
  - **i-ls** ‘tongue’ other Berber
- Egyptian: Middle
  - **ns** ‘tongue’
- Egyptian: Coptic
  - **las-pi** ‘tongue’ Sahidic, Bohairic.
- Semitic: Northwest
  - **lšn** ‘tongue’ Ugaritic
  - **lišana** ‘tongue’ Neo-Aramaic
- Semitic: Eastern
  - **lišaana** ‘tongue’ Akkadian
- Semitic: Central
  - **lisæn** ‘tongue’ Iraqi Arabic
- Semitic: Modern South Arabian
  - **lešin** ‘tongue’ Soqotri
- Ongotan: Ongota
  - **ˀelisa** ‘make up or work up saliva’

While the verb for such an action is probably unrecorded in most languages, cognates do exist for ‘saliva’ (the substance involved) and ‘tongue’ (the instrument of the action). For a non-cognate but semantically similar pair, see Dizi of Adikas /**ˀéabîl**/ ‘tongue’ and /**ˀealbo**/ ‘spit up on tongue, gather saliva on tongue’.

Chadic: (branches disregarded)
êlêč 'saliva' Pero, where [**č**] is clearly from [***s**]
ilis 'saliva' Tangale
yilik 'saliva' Dera
Nomotic: Gimojan
hals 'to lick' Chara
ays 'lick' < {**als**} Bencho (Breeze)

Probably a different group:

Nomotic: Gimojan
eys' 'tongue' Bencho (Wedekind) from {**els'**}. See 'lick' above.
láč'é to lick' Gofa of Bulki (HF)
Nomotic: Gongan
ilac' 'salivate' Shinasha (Boro)
eeč'-iyo 'tongue' Kafa (archaic) (Cerulli) (This may be doubted;[9])
Nomotic: Dizoid
lyas' 'to lick' Dizi
Somotic:
les' 'to lick' Dime
East Cushitic: Lowland
leč' 'to lick' Arbore
South Cushitic: Rift
nas' 'to lick' Iraqw

21) TONGUE-2 As the Cushitic realm was mostly untouched by TONGUE-1, as expected we find several localisms. Also Ongotan was represented only by a very specialized form above, so that more could be expected there. What is more interesting is the glimmerings of a very old linkage between Cushitic and Ongotan in TONGUE-2.

The evidence for said linkage is, as follows:

Ongotan: Ongota
ᶜ**ada** 'to lick'
ᶜ**adaba** 'tongue' Clearly derived from 'to lick'.
South Cushitic: Dahaloan
ᶜ**ééna** 'tongue' Dahalo
ᶜ**anĆ** - ᶜ**ants'**- 'to lick' Dahalo where the [**Ċ**] represents a dental click[10]

---

[9] While Manjo of the Gojjeb has **eč'io** 'tongue', the evidence of Mocha **hêč'a-wo** tongue does not suggest a lost [**-l-**] as in the Bencho case (see above). Shinasha 'salivate' does support it though. Most Gongan languages tend towards the borrowed Amharic word for 'tongue'.

[10] The odd interrelationship between the dental click, normally symbolized by [/], and the glottalized dental fricative [**s'**] or affricate [**ts'**] makes immediate sense in terms of tongue position. The linkage also helps establish cognations between and among Khoisan languages of Tanzania and southern Africa. Dahalo

(Tosco), usually represented by [/]
ᶜaĊa , **ᶜats'a** 'to lick' Dahalo (Damman)
South Cushitic: Mbuguan
lu-**ˀánda** 'tongue' Ma'a (Mbugu)
South Cushitic: Rift
ondalimo 'tongue' Qwadza

Ehret (1980) reconstructs proto-South Cushitic /***ᶜanda**/ for 'tongue' which looks cognate with Ongota /**ᶜada**/ 'to lick'. The more developed form for Ongota 'tongue' or /**ᶜada**/ + /**ba**/ finds its mates in Omotic and, via borrowing, in Kuliak.

Somotic:
attâp' / âtâp 'tongue' Kara
adîm / atâp 'tongue' Hamar
adâb 'tongue' Banna
adim 'tongue' south Ari
admi 'tongue' north Ari
îdîm 'tongue' north Dime
eedîn 'tongue' south Dime
borrowed into Nilo-Saharan: East Sudanic: Kuliak
êdêb / edeb-oin 'tongue / pl. Nyangeya
êdêb' 'tongue' So (Tepeth)
êdêb' / êdêp 'tongue' "
***êdêb'** 'tongue' proto-Kuliak (Heine)

Some people have tried to make the South Cushitic forms fit into East Cushitic /***ᶜarrab**/ 'tongue', sometimes reconstructed as /***ᶜanrab**/, but these efforts have not been accepted. The Ongota forms argue quite strongly for independence from East Cushitic, but distant cognation with Omotic and South Cushitic. However, the proto-East Cushitic 'tongue' /***ᶜarrab**/ may also be cognate, needing only a few more correspondences to be convincing.

Perhaps the possible etymology of "heavy" can contribute.

Here is the evidence for 'heavy':

Ongotan: Ongota
ˀaddiši / ˀadiši be heavy
East Cushitic: Yaakuan
irriᶜiša 'heavy' Gawwada
rišiᶜa 'heavy' Warazi (Harso)
riᶜiš-ad' 'become heavy' "

Note: Some authorities do not reckon the Dullay forms (above) as derived from a proto-East Cushitic /***ᶜulus**/ 'heavy'. It is mostly found in Lowland East Cushitic. Two related forms in Omotic are Somotic Dime **ˀins** and Nomotic Dizi /**ˀints-**/ which might be borrowed one from the other or from an Arboroid form like /**ˀils-**/ still found in El Molo.

---

also has at least one clear correspondence between its dental click and Agau's old dental affricate [**ts**] or [**ts'**] in `star'.

Dime and Dizi (Maji) are on the east and west banks of the Omo respectively. Somotic is in contact with two Arboroid languages (Dasenech and Arbore). In any case the correspondence between Ongota and Dullay is striking and borrowing is most unlikely. If this cognation is true, then it supports the /**d**/ = /**rr**/ correspondence found in 'tongue', above. At least for Dullay. However, the correspondences between Ongota and Lowland East Cushitic would involve both [***r**] and [***l**] which is somewhat more difficult to accept.

BONUS ETYMOLOGY: LIGHTNING or BRIGHT, SHINY or FLASH, RAY

22) LIGHTNING-1 There is only one etymology which can reach to proto-Afrasian in this set of meanings. That listed as #45 in Greenberg's 1963 Afrasian. This a well-known, nay famous, word, usually cited as the **b-r-q** root. It has long been known to exist outside of Afrasian, not only in Nostratic but elsewhere in Africa and even in Amerind. It has been proposed as a 'global etymology'. And there is nothing particularly sound symbolic (onomatopoeic) about it, unlike the newly invented ZAP or KABOOM or SSSHIIIZZZ of American comic strips. It is an arbitrary representation of a natural phenomenon.

It has also been used and abused by comparativists of Afrasian, of Nostratics, and of global etymologies, most of whom insist on giving shape to the ancestral form. In this respect recent comparativists, such as Bomhard or Dolgopolsky, have stipulated ***b-** as its initial consonant, usually followed by **-r-** or sometimes **-l-**, and finishing in ***-q** or ***-k'**. Even though it has been known for some time now that several southern languages had a different initial consonant than a plain bilabial stop, and some scholars had pointed this out publicly, the basic form found in Semitic and most of Afrasian has not been altered.

Consider the evidence given in Greenberg 1963 and Bennett 1998.

Central Chadic	**amâlaji**	'to lighten'	Logone
East Chadic (?)	**baratje**	'lightning'	Batta Garua
Cushitic: Agau	**birqa**	'lightning'	Kamir (sic) Khamir
	bilíčy	'to lighten, to glitter'	Bilen
	barh	"to become light"	Bilen
Egyptian	**brq**	'to shine'	
Northwest Semitic:	**bôraq**	'lightning'	Hebrew
Aramaic Mandaic	**birqa**	'lightning'	(Bennett)
Urmi	**birqâ**	'lightning'	"
Ma^{c}lula	**barqa**	'lightning'	"
East Semitic	**baraaqu**	'to lighten'	Akkadian

Although the Chadic evidence is not really so strong, it is typical for Chadic; neither Jungraithmayr nor Newman include 'lightning' or its associates in their proto-Chadics or that of a major branch. The **b-r-q** cognate may exist in Chadic outside of Greenberg's evidence but I cannot find it in my limited data base. Nor do I find it in Berber, again for about the same reason. But then I found it as "brightness" in Central Chadic: Glavda **paraka** and possibly in West Chadic: Hausa "lightning" **walk'-iya,** and Central Chadic: Bura "lightning" **wurrka.** Moreover less likely are Central Chadic: Fali Bwagira "lightning" **pîd'îŋga vunun,** Nzangi "lightning" **pipid'i** , Zagvana "lightning" **wud'uge,** Lame "lightning" **wúd'i**

But LIGHTNING-1 abounds in Cushitic and Omotic – but not in Ongota. Some of that evidence is, as follows:

East Cushitic: Lowland **balak'-isa** 'to flash, of lightning'
balak'-saa 'bright, flashing'
(bakakka) ('lightning')
bilik'ee 'fire-fly' [11]
(All from Oromo of Wallega) (Gragg)
Lowland **ib'îrg'a** 'lightning' El Molo
Highland ***bank'o** 'lightning' proto-HEC (GH)
Dullay (**b'ak'-**) ('lighten, flash') Gollango
South Cushitic: Dahaloan **b'írik'inna** 'lightning' Dahalo
Nomotic: Gongan **p'ark'a** 'lightning, flash of light' Shinasha of Dangela
p'arik'- 'to lighten' Mocha (Leslau)
Mao **pérék'e / bérk'e** 'lightning' Bambeshi (SLLE)
p'yark'â 'lightning, flash not thunder' Diddesa (HF)
Dizoid **b'algumo** 'heat lightning' Adikas
b'algumo 'heat lightning' Jeba
k'algumo 'heat lightning, quick flash of light' Maji
Somotic: **b'êlxân** 'bright, shiny' Dime (HF)
bêlXant 'lightning' North Dime (SLLE)
b'alak' 'flash of light, lightning, small flash' - Hamar-Banna (HF)
b'alak'-at 'flash of light', same only a big flash' Hamar-Banna (HF)

Some Discussion

It would seem too much to demand that all of these glottalized consonants, implosive and explosive, be crammed under the rubric of an ancestral plain bilabial stop – ***b**. By the ordinary rules of sound correspondence (cf Anttila 1972) if there are cases where Semitic **b** corresponds to Omotic **b** – just these two for examples – then the ancestor is likely to be **b**. Given that fact, however, when Semitic **b** corresponds to Omotic **b'**, then the ancestor is likely to be something else – most likely ***b'** or ***p'**. (Normally in Omotic and some Cushitic languages, the ingressive and egressive forms may alternate with one informant. The basic reason often is to 'make everything clearer' to the investigator who is usually interrogating in Amharic with its **/p'/** and the same is true for **g'** and **k'** or **d'** and **t'**.) The two glottalized bilabials are also often missed by field workers. What shows this often is a report of variants beginning with **b** and **p**. This occurs a lot in the reports of SLLE and of Cerulli on Kafa.

---

[11] There is an odd parallelism between `lightning' and `fire-fly' in much of the Omotic realm, at least.

Are there cases of Semitic **b** and Omotic **b** ? Yes, at least for now consider a masculine suffix or large animal marker **-b**, the verb for going and/or coming **ba**$^{?}$**-**, and probably the verb for building or making in **b-n**. I'm sure many more could be found between Omotic, Dahalo, Yaakuan and most of the northern branches of Afrasian which today also lack **[b']** or **[p']**. Indeed South Cushitic outside of Dahalo lacks or virtually lacks a bilabial ingressive or egressive.

Might we explain the strange bilabials of southern Afrasian by simple process or transformation from 'underlying' combinations of glottal stops and bilabial stops? Initially, the notion of these being composed of [$^{?}$] and [**b**], for example, was advanced by Hayward from obvious hearings. Yet this will not explain the phenomena in initial position. However, there are cases of glottalized stops generated by morphological processes, as in the clear utterances of my chief informant for Diddesa Mao, Mr. Sanbata Aga. I don't mean that this is the first time someone has heard these things or reported them. I only mean that Sanbata Aga was a first rate informant who helped me realize these things.

Some examples from Diddesa Mao are, as follows:

hoyb'a 'go! (plural)' . Composed of **hoy**$^{?}$ and **-pa** 'go' + imperative pl.
han hoyd'a 'let us go!', 'let's both go!' . Same verb plus jussive suffix **-ta** or **-da**
makíínâš a-hoyt'iya 'the car has gone'. Same verb + **-tiya** tense marker.
And in Sezo Mao **ááb'àms'è** 'tear of eye / eye tear'. Composed of **aab-** 'eye' + $^{?}$**ams'e** 'tear', both regularly attested elsewhere.

Indubitably these morphological connections produce some ingressives (glottalized implosive) from time to time. Theoretically, they might occur in initial position when a verb or noun root begins with a glottal stop or a pharyngeal and a prefix attached to that becomes glottalic. This is basically an empirical question and let us search for examples. Otherwise I argue that the initial implosives shown above are parts of the bases, roots or stems and not derived from morphological processes.

Proto-Afrasian had at least two bilabials, [***b**] and [***b'**] or conceivably **[p']**

Quod erat demonstrandum.

23) Post QED

It is tempting to propose – with insufficient evidence – that Afrasian ***b'** is cognate with Indo-European [**bh**] . Since our 'lightning' etymology usually is extended to Nostratic or at least Eurasiatic, we can easily obtain at least one match-up between (my proposed) proto-AA
***b'-r-k'** and PIE **bhleg** "to shine, flash, burn"("extended form" of ***bhel-**"to shine, flash, burn"). That PIE extended form shows up among other places in Latin **fulg-ere** "to flash, to shine" and **fulg-ur** "lightning"; all this according to Cal Watkins. C.D.Buck proposes ***bhelg** for PIE and derives many Germanic words, like Swedish **blixt**, Old

English **blic-an** 'to shine', Old High German **blic** 'lightning', and modern German **Blitz** 'lightning' from it "ultimately." Watkins also lists ***bhereg** 'bright, shiny, white' from which English 'bright' is derived. Buck seems to agree but does not list a proto-form, instead relating 'bright' to other similar Germanic forms and to Celtic: Welsh **berth** 'fair, fine', Sanskrit **bhrāj-**, Avestan **brāz-** 'shine', and (best of all) Hittite **parkwis** 'pure'. The Hittite is most like the Nomotic form!

Two things seem evident. The two PIE etyma are not necessarily the same, yet they both resemble the Afrasian closely. Moreover, while the Indoeuropeanists sometimes (Watkins) derive one or more of these forms from a more basic verb root meaning 'to shine' or 'be bright' (or the like), yet in the other case he does not. Buck also derives one from a verb root, but not the other. So it is not clear by PIE rules that 'lightning' in IE is necessarily derived from a verb root. What Watkins calls an 'extended form' seems *pretty arbitrary* to me. Is there a bound form **[-g]** which makes nouns from verb roots?

Anyway the mass of Afrasian evidence does not demand that those forms be derived from some verb roots, usually Semitic, that have been suggested in various publications. I suggest that the phenomenon of lightning is so powerful that it stands by itself!

Additional IE data add to the puzzle. Eastern Armenian which does have glottalization itself has [**p'ayts'arr**] for "bright" and [**p^{h}aylel** for "shine". Thunder is [**vorot**]. The [**p'**] and [**ts'**] in "bright" could also be unaspirated according to the author.[ii] According to Watson, Armenian [**p**] is derived from or corresponds to PIE [***b**], Old Greek [**b**], Latin [**b**] and Germanic [***p**]; while Armenian [**b**] goes with PIE [***bh**], Greek [**ph**], Latin [**f**] and Germanic [**b**]. No apparent cognate was found in Albanian in a small dictionary.

Buck lists some more possible cognates or what I see as possible cognates, as follows:
Slavic: ChSl **blištati** "bright"; Lithuanian **blizgeti** "glitter, flash" and **blikšti** "turn pale" and **brekšti** "to dawn"; Polish **brzask** "dawn" and **o-brzasknać** "become light"; Bohemian **blesk** "lightning"; Polish **błyskawica** "lightning" and **błysk** "flash"; Russian **blesk** "luster"
Germanic: Gothic **bairhts** "bright"; Old Norse **bjartr** "bright"; Old High German **beraht** "bright"; Old English **beorht** "bright"; Dutch **blicksem** "lightning", Middle High German **blickeze** or **blitze** "lightning"
Celtic: Welsh **berth** "fair, fine"
Buck drives these lightning forms from ***bhleig** , meaning flash or lightning. This includes Greek **phlégō Φλέγω** which apparently means to flash.

24) New etymologies found after the publication of *Ongota: A Decisive Language for African Prehistory.*

Lead item is always from Ongota, unless otherwise stipulated.
Outer Core Evidence

25) d'ufi / dufi 'to gush, flow, flood (exact meaning unsure)'
Egyptian: Middle: **dfdf** 'to drip', **ḏfḏft** 'drop of liquid < ***dfdft** (Faulkner)
Nomotic: Gongan: Kafa (Cerulli) **t'up- / dup** 'to gush (of spring) and Kafa (Cerulli) **túpp-ite** '(it) gush-ed', Mocha (Leslau) **t'up'p'i-ye** ''to gush out, bolt, jump up' and **t'úúp'p'o** 'spring (of water)', Shinasha (Rottland) **t'úúba** 'to gush, as in a spring', Amuru (Beke) **túppo** 'spring' (of water, presumably). There is also Kafa (Cerulli) **uf** 'be spread, overflow, brim over' which may be more accurately ***$^?$uf**. Another candidate is Kafa (Fleming) **opp-e** in **opp-e-d'i aač'o** 'well (water*)*. Cf Cerulli's **opp-o** 'ditch'.
Nomotic: Mao: Ganza (Reidhead) **wupi** 'to pour' aligns itself with Kafa ***$^?$uf**
Nomotic: Gimojan: Gimira: Bencho (Breeze**)** **t'up' / t'up'-k** 'to burst' and **t'ip'-** 'to fill in' and **t'uk'al** 'to gush', Ometo:Male (SLLE) **du$^?$**- 'to pour', as in **du$^?$-ê-ni** 'pour-s', Male (Donham) **toho** 'well (water), Zaisse (Hayward) **d'úu$^?$**- 'burst'
Somotic: Kara (Hieda 1991) **dúbá** 'to overflow, flow over' and **dub-** 'to foam (in cooking)' and **dub-** 'to babble' and **dúbó** 'coagulated milk film which develops on the surface when heated', Dime (Fleming) **tuutu** 'spring (water)'. Through neighborly contact and borrowing it shows up in N.S.
(Nilo-Saharan: East Sudanic: Surma: Kwegu (Hieda 1991) **dóbo** (same meaning as Kara) and **dúb** 'to babble' and **dúbúk-én** 'foam on the surface of water'. There is another set of proposed cognates which differ in one consonant from expected coreespondences or may be a different etymology)
However the presence of Dime **t'îp'** "drop" suggests that these above are in another cognate set.
Cushitic: Proto-East Cushitic (Arvanites): ***d'ak'k' / *d'uk'k'** 'flow' and **t'ok'** 'to spill' (the idea of pouring and flowing liquid). Phonetically doubtful.
Cushitic: East: Oromoid: Wallega Oromo (Gragg) **č'op'a** 'to drip, make sound of dripping rain', and **č'uup'a** 'dip, baptize' and **č'afč'afi** 'swampy place where too much water has accumulated'. Also **t'op' god'a** 'to drop (something) into (like water)'. Transitive verb, said to be a variant of **č'op'a**. Also Oromo of Kenya (Stroomer) **č'oč'oba** 'to drip down' and Waata Oromo (Stroomer) **č'oč'op'a** 'to drip down, rain'. The Oromo form was borrowed into Bantu Pokomo as **č'omp'a.** Yet Boran of Black has **d'ímp'u$^?$** "drop of water" and **d'imp'is** "to drip" (Note: Konso and Gidole have not been searched yet.)
Cushitic: North: Beja: Imera (Roper) **t'au** 'to burst, leak, be foundered".
Semitic: Ethiopic: Geez (Leslau) **s'fs'f** 'ooze, drip, drop, pour out in drops, distill'. He thinks it is a reduplication of Semitic **ṣwf** which shows up in Hebrew **ṣāp** 'flow', Syriac **ṣappi** 'distill', and Arabic **ṣaffā** 'distill,

flow, filter'. Also in Ethiopic: Tigre **s'âfs'âfa** 'to drip', Tigrinya **s'âfâff bâla** ''to drip', and **čâffâfâ** 'have tears, water (eyes), Harari **č'īf bâyā** *'ooze'*, Amharic **(tân) t'âfât't'âfâ** *'drip'*. But the question is this: does Semitic [**s'**] correspond to Ongota [**d'**] and Omotic [**t'**]? But there is another reduplicated root, meaning 'drip, fall drop by drop' which is very similar, but closer to the Ongota phonetically: Geez **t'bt'b** / **(ˀan) t'abt'aba**, Tigrinya **t'ubb (bala***)* 'drip', Tigr*e* **t'âbb (bela**), Amharic / Argobba **t'âbb (ale**), and Amharic *(***tân) t'âbat't'âbâ**, again Tigre **t'âft'âfâ** 'alternative de pluie et de beau temps'. Leslau also cites Hebrew **ṯpṯp** "drip".

Cushitic: Agau: Bilen **t'ibby** 'trickle'and East Cushitic: Lowland: Saho **t'obbya**

26) **b'ak'** '(to) open'

Cushitic*:* South: Dahalo **b'ook-** 'hole'
Chadic: proto-Chadic: ***bk** 'mouth, hole' (Jungraithmayr)
Nomotic: Gimojan: Ometo: Basketo **book** 'to dig', Dorze **bok** 'to dig' (Olmstead), Male **bok** 'to dig'
Egyptian: Middle: **b3b3w** 'hole'. (Note: Egyptian [**3**] does not necessarily or always equal the glottal stop.) There is also **pg3** 'to open, entrance of building, bowl, mouth of valley, arena, honest, to reveal. '

27) **g'išša** 'doorway'

Cushitic: East: Dullay: Tsamai ***q'aaš*** '(to) open' and Galaboid: El Molo ***óóg'usa***ˀ '(to) open'

28) **rimárimó** "termite". In addition to the Cushitic cognates cited before add these from South Nilotic (which may have been borrowed from earlier East Cushitic or from Ongota itself. These forms appear isolated in Nilotic.)

South Nilotic: Nandi **ririmio / ririm** "other sp. ant / pl", Akie **rírimyante / ririm-ik** "sp. ant, eats hides / pl"

29) Inner Core Evidence: Ongota **not** included

Long, deep, far, thin, tall

South Cushitic: Iraqw **tl'eer** / **tl'en-am / tl'et** 'long / long / plural', Gorowa **tl'eer / tl'et** 'long / plural', Burunge **tl'eedu** 'long'. Possibly in Ma'a (Mbugu) **hle** 'long'. (Ma'a lacks the [**tl'**] phoneme)
Semitic: Arabic **ţawil** 'long', several dialects. Otherwise not found in Semitic.
Somotic: Hamar **s'eeri** 'long', Galila **č'eeri** 'long' from ***s'eeri,** by local rules**.**
Nomotic: Gimojan: Ometo: Basketo **s'eela** 'deep (of water)'; Mao: Hozo **šallá** 'thin' (SLLE), Diddesa-Aga **šaal-ītê** 'thin it is' (HF)
East Cushitic:Highland: Sidamo **dirir-s** 'to lengthen';

Lowland: Northern: Assaorta Saho **ded** , Saho **d'eeɭ** (= l with a dot under it); Southern: Dasenech (Galab) **d'ir** , El Molo **d'eeri-d'a** , Arbore **d'eer-á** ; Somaloid: Baiso **ka-$^?$eeri** , Rendile **der** , North Somali **d'eer** , Baardheere **d'eer** 'long, far', Garree **d'eer** 'long, far', Tunni **d'eer** , Jiddu **ɖiire** 'long, far'; Boni **d'eer** ; Yibir (an isolated problematic language in Somaliland) **der** 'long'; Oromoid: Oromo **d'eera**, Konso **d'er**

Agau: Bilen **šer** 'long', Quara **cer** 'long', Quara-Falasha **cerê** 'tall'. Old sources. Thus unsure if [**c**] = [**ts**] or [**č**]. Probably all descended from **[*ts']**

North Cushitic or Beja: Hadendiwa **salaala** 'long, thin, tall, but also **saraara** 'long and fairly thick'. (Same source, same linguist, *E.M.Roper*)

30) **Dark, evening, night, black**

Nomotic: Gimojan: Ometo: Dorze **d'uma** "dark", Basketo **d'um** "darkness", Male **d'umi** "night, darkness", Zergula **t'um-** "be dark"; Gimojan: Chara **d'um-îš** "it's getting dark"; Bencho **t'um / t'ums** "get dark / get dark", **tum-ezen** "mid-night", She (Straube) **tum-esen → tum-ezen** "evening". Gongan: Kafa **d'umi** "night, evening", **t'um** "become dark, be dark, become night", Bosha / Garo **t'um-ete** "gets dark", Mocha **t'umo** "night", **t'uma-yé** "be evening", Shinasha **t'uma** "night" (d'Abbadie in19th century) but **t'uwa** "night" (3 modern sources from 3 dialects). [**m**] = [**w**] is a regular Gongan correspondence.

Mao: Diddesa Aga **dúúmê** "really dark, blackest of night", **siáp dúúmê** "really dark".

Questionable Nomotic: Ometo: Ganjule **d'uma / d'umá** "cloud", Haruro-Gatame **d'uma** "cloud"

Somotic: Galila **$^?$um** "be dark", Dime **d'uum** "night" and **t'um** "darkness"

Cushitic: Eastern: Assaorta Saho **dumáá** "darkness"; proto-HEC ***tuns / tunso** "become dark / darkness"; Gidole, Konso **d'um-** "set of sun"

Cushitic: Agau: Waag (Hamara: Bruce 1770 / Beke 1850) **temo / tâmmá** "darkness",

Falasha (B / B) **temo / tim** "darkness

Chadic: Pero **d'umd'um** "complete darkness", Bule **dum** "darkness", Geji **dîmšâl** "darkness" (questionable), Burma **tubm** "darkness" (also questionable), Dira **dîmuni (**again questionable**),** Tangale **rim;** Central: Logone **tu** "darkness"

Questionable Cushitic: Asa-Aramanik **demog dadi** "pre-dawn, still dark", Mbugu (Ma'a) **$^?$ama** "night",; Tsamai **$^?$uunto** "soot"

Semitic: Modern South Arabian: Mehri **admeem** "to grope for something", Jibbali **edmím** "to search for something in the dark, to put one's hand here and there in the dark"

Old Egyptian: Questionable: **d̲** ^{c} **b** / **d̲** ^{c} **bt** "coal black , soot, charcoal", although it may connect up with Galila **[tâft]** "to feel around in the dark by hand".

Nilo-Saharan: East Sudanic: Kwegu **dím en ka kera** "darkness"; it depends on [**dim**]

= 'dark'. But [**kera**] might = 'dark'. Cf **kera je-aa jirijir** "get dark"

31) Place, at, by, in, house, sit, live, dwell

South Cushitic: Iraqw **doˀ** "house, place", Iraqw **di** "place", Burunge **da** "spot, place", **daqa** "place", Mbugu **dí** "territory", Dahalo **ða** "place, spot", **da-** "Locative prefix, in, at".

East Cushitic: Boran Oromo **taaˀ** "sit", Dasenech **dik** "sit". (Questionable →) Assasorta **difi** "sit"

Agau: Central Cushitic: Quara **tanku** "sit", Qemant **tikwaš** "sit", Wag of Fleming **tuk** "sit". All three questionable.

Nomotic: Mao: Bambeshi **d'a** "at, by, to", Ganza **du** "inside, in, on. Locative", Hozo **tê** Locative "in", Diddesa-Aga **–t** , **-ta** Locative "from"; Dizoid: Shako **t'a** Locative, Shako **ta** "Directional locative", Shako **dâ** "chez" (which seems the closest of the three). Gimojan: Basketo **doˀ** "sit, live, dwell, to", Chara **ut'-** "to sit", Janjero **du-** "to sit", Dorze **d-** "to live", **d'o** "area", Male **dêˀ** to sit, live"; **Gongan**: Kafa **táo** / **táwo** "place", Mocha **t'ààˀo** "place".

Somotic: Dime **dáhi** "to live, sit, stay", Dime **-de** "Locative at, from", Ari-Bako **doR** "to sit",Ari-Jinka **dok'** / **dôˀô** "to sit", Ari-Ubamer **doq** "to sit", Galila **dok'** "to live, dwell", Galila **doR** / **doq** "to sit", Galila **dok'e** "to live somewhere", Hamar **dork** / **dork'** "to sit", Karo **derka-ma** "to sit".

Ongota: noun suffix , locative, **-tu**, **-to** .

Chadic: West: Tangale **dii** "stay, live, sit, dwell", Bolewa **d'owi** "sit", Ngamo **d'eyi** "sit", Kariya **d'âgwa** "sit", Diri **d'ugwa** "sit", Musgoy **dew** "sit", Kola **d'eu** "sit". Jungraithmayr reconstructs ***d'g-** for proto-Chadic and finds this cognate in both West and Central Chadic.

Semitic: Aramaic: Arbel **ˀitiwa** "sitting, dwelling", Targum **ytw** "sit", Urmi **tyîvî** "sit", Old Aramaic **ytb** "sit", Syriac **iitib** "sit", Ahiqar **ˀtr** "Ort"

Semitic: Canaanite: Ugaritic **yþb** "sit",

And perhaps ? Semitic: Ethiopic: Silte, Walani **et** "place"

Middle Egyptian: **t3** "earth, land, ground" and as a prefix in names of locations, *e.g.*, **t3-mr1** "Egypt" or **t3-1hw** "Farafra Oasis" or **t3-sty** "Nubia". It is probable that this joins

Nomotic Janjero **da** / **daˀa** "earth" and also the others above here.

But

Nilo-Saharan: East Sudanic: Nubian: Kenuz, Dongola **teeg**, Mahas **tiig**, Old Nubian **tik**, Midob **tekk-er**. All equal "sit, stay, live, exist, reside, begin". Possible borrowing from Afrasian has been proposed by Murray.

Nilo-Saharan: Saharan: Kanuri **dega, dang** . Same meaning as the Nubian.

Literature Cited[12]

d'Abbadie, Antoine. 1843. *Lettres de M. d'Abbadie a M. Jules Moche.*

Abdi Sheikh Abdi. 1994. Personal communication on Ogaden Somali.

Amborn, Herrmann, Gunter Minker, and Hans Jürgen Sasse. 1980. *Das Dullay. Materialen zu einer Ostkuschitiscen Sprachgruppe*. Kölner Beiträge zur Afrikanistik . 6. Band. Berlin: Dietrich Reimer Verlag.

Anttila, Raimo. 1972. *An Introduction to Historical and Comparative Linguistics*. New York: Macmillan.

d'Arpino, Ludovico. 1938. *Vocabolario dall' Italiano, nelle Versioni Galla (Oromo), Amara, Dancalla, Somali.* 1938-XVI. Ulrico Hoepli, Editore, Milano.

Arvanites, Linda. 1991. *The Glottalic Phonemes of Proto-East Cushitic*. PhD dissertation, University of California at Los Angeles.

Awde, Nicholas and Peter Maghdashyan. 2003. *Eastern Armenian Dictionary and Phrasebook.* New York: Hippocrene Books Inc.

Banti, Giorgio and Moreno Vergari. 2003. Revised edition. "Grammatical notes on Saho." In Vergari, Moreno and Roberta Vergari, *A Basic Saho-English-Italian dictionary,* pp. 18-36. Asmara: Sabur Printing Service.

Beke, Charles T. 1845. "On the Languages and Dialects of Abyssinia and the Countries to the South." Paper read to the Phililogical Society, London , April 25, 1845.

Bender, Marvin L. n.d. 1980s. Unpublished manuscript on Dullay language, Gobeze.

---------- n.d. 1980s. Unpublished manuscript on Mao languages.

Bennett, Patrick R. 1998. *Comparative Semitic Linguistics. A Manual.* Winona Lake, Indiana: Eisenbrauns.

Black, Paul, 1972. Unpublished comparative data on Werizoid (Dullay) languages of southwestern Ethiopia.

----------, 1975. *Lowland East Cushitic*. Doctoral dissertation, Yale University.

---------- n.d., late 1970s. Unpublished Oromoid dictionaries (Konso, Gidole, Boran Oromo).

Bomhard, Allan R. 1996. *Reconstructing Proto-Nostratic: Comparative Phonology, Morphology, and Vocabulary*. Updated and republished recently by John Benjamins. Available also on electronic disks.

Bouda, Karl. 1960. "Die Verwandtschaftsverhältnisse des Giljakischen." *Anthropos* 55:355-415.

Breeze, Mary. 1981. *A Basic (1145 words) Vocabulary List . Gimira-Benchnon.*

Bruce, James. 1790. Travels to discover the source of the Nile in the years 1768, 1769, 1770, 1771, 1772, and 1773. Edinburgh: G.G.J. and J.Robinson. 5 volumes.

Buck, Carl Darling. 1949. *A Dictionary of Selected Synonyms in the Principal Indo-European Languages. A Contribution to the History of Ideas.* Chicago: University of Chicago Press.

Cecchi, A. 1885. *Da Zeila alle frontiere del caffa.* 2 volumes. Roma.

Cerulli, Enrico, 1938. *Il Linguaggio Giangero ed alcune Lingue Sidama dell 'Omo*

---

[12] Many unpublished sources from Bender and Fleming are not included.

(Basketto, Ciara, Zaisse). Roma: Studi Etiopici . Vol III

-----------. 1951. *La Lingua Caffina.* Roma: Studi Etiopica. Vol. IV.

Conti Rossini, Carlo. 1936. "Contributi per la conoscenza della lingua Haruro." *Rendiconti della Reale Accademia dei Lincei. Classe di scienze morali, storiche e filologiche*, Ser.6, vol. 12, pp.621-679.

Damman, Ernst. 1950. "Einige Notizen über die Sprache der Sanye (Kenya*)." Zeitschrift für Eingeborenen Sprachen.* Band XXXV: 227-234.

Dolgopolsky, Aaron. 1998. *The Nostratic Macrofamily and Linguistic Palaeontology. Papers in the Prehistory of Languages.* The McDonald Institute for Archaeological Research.

Donham, Donald. 1974. *Grammatical Sketch and Vocabulary of Male*. Unpublished.

Ehret, Christopher. 1980. *The Historical Reconstruction of Southern Cushitic Phonology and Vocabulary.* Kölner Beiträge zur Afrikanistik. Band 5. Berlin: Dietrich Reimer Verlag

---------------1995. *Reconstructing Proto-Afroasiatic (Proto-Afrasian). Vowels, Tone, Consonants, and Vocabulary*. Berkeley: Los Angeles, London: University of California Press.

Faulkner, Raymond O. 1981. *A Concise Dictionary of Middle Egyptian*. Oxford: Griffith Institute, Ashmolean Museum.

Fleming, Harold C. 2006 . *Ongota: A Decisive Language in African Prehistory.* Wiesbaden: Harrassowitz Verlag.

Gragg, Gene B. 1982. *Oromo Dictionary*. Monograph No.12, Committee on Northeast African Studies, African Studies Center, Michigan State University, East Lansing, Michigan, in cooperation with the Oriental Institute, University of Chicago.

Grottanelli, Vinigi. 1940. *I Mao*. Roma.

Hayward, Richard J. 1989. "Comparative Notes on the Language of the S'aamaakko." *Journal of Afroasiatic Languages* 2, No.1, pp.1-53.

------------1990. "Notes on the Zayse Language." In Richard J. Hayward, *Omotic Language Studies*, pp.210-355. School of Oriental and African Studies, University of London.

Heine, Bernd. 1976. *The Kuliak Languages of Eastern Uganda.* Nairobi: East African Publishing House.

Hieda, Osamu. 1991. "Koegu vocabulary with reference to Kara." *African Studies Monographs, Supplement Issue*, No.14 . pp. 1-70. Kyoto University: The Center for African Area Studies.

Hudson, Grover. 1989. *Highland East Cushitic Dictionary (Cushitic Language Studies 7*). Hamburg: Helmut Buske.

Jungraithmayr, Herrmann and Dymitr Ibriszimiw. 1994. *Chadic Lexical Roots, Vol.II.* Berlin: Dietrich Reimer Verlag.

Leslau, Wolf. 1959. *A Dictionary of Moča (Southwestern Ethiopia).* University of California Publications in Linguistics. Vol.18. Berkeley and Los Angeles: University of California Press.

----------. 1987. *Comparative Dictionary of Ge'ez (Classical Ethiopic).* Wiesbaden: Otto Harassowitz.

Lewis, Herbert S. 1960. Unpublished manuscript on the Janjero (Yemsa) language.

Miyawaki, Yukio. 1991. Unpublished manuscript of Tsamai vocabulary with about 800 words.

Muldrow, William. n.d. 1970s. Unpublished data on Maji.

Murray, G.W. 1923. *An English-Nubian Comparative Dictionary*. Harvard African Studies, vol. IV. London, Edinburgh, et al.: Humphrey Milford, Oxford University Press.

Newman, Paul. 1977. "Chadic classification and reconstructions." *Afroasiatic Linguistics* 5, 1: 1-42

Olmstead, Judith. n.d. circa 1974. Unpublished vocabulary on the Dorze language of Ometo.

Reidhead, Paris W. 1947. *Note on the Ganza Language. A Preliminary Descriptive Analysis.* Melut, Sudan: Sudan Interior Mission.

Roper, E.M. 1928. *Tu Beḏawie. An Elementary Handbook for the Use of Sudan Government Officials.* Printed by Stephen Austin and Sons, Ltd. Hertford, Herts, England.

Rottland, Franz. 1991. *Manuscript Materials on Shinasha.* (This is basically preliminary material for his subsequent book, which I have not seen.)

Stolbova, Olga, and Vladimir Orel. 1995. *Hamito-Semitic Etymological Dictionary, Materials for a Reconstruction.* Leiden: E.J.Brill. (Noted but not studied.)

Straube, Helmut. n.d. 1980s. Unpublished vocabularies of She and Shako. (Forwarded by the Estate of Helmut Straube).

Stroomer, Harry. 1987. *A Comparative Study of Three Southern Oromo Dialects in Kenya. (Phonology, Morphology, and Vocabulary).* PhD. Dissertation, Leiden: Rijksuniversiteit Leiden.

*Survey of the **Lesser-Known** **Languages** of **Ethiopia*** **(SLLE).** 1994. *Linguistic Reports. Second Survey of the Gawwada, Tsamay, and Diraasha Areas with Excurica to Birayle (Ongota) and Arbore (Irbore).* Linguistic Report no. 20, October 1994. Report Part II.

Tosco, Mauro. 1991. *A Grammatical Sketch of Dahalo*, including texts and a glossary. Kuschitischen Sprachstudien. Band 8. Hamburg: Helmut Buske Verlag.

Tully, Dennis. n.d. Unpublished vocabulary of Ari of Jinka. Forwarded by M.L.Bender.

Watkins, Calvert. 1996. "Indo-European Roots Appendix." In *The American Heritage Dictionary of the English Language.* Third Edition. Boston, New York: Houghton Mifflin. 2081-2193.

Wedekind, Klaus. 1990."Gimo-Jan or Ben-Yem-Om: Beng-Yemsa Phonemes, Tones, and Words." In Richard J. Hayward, ed., 1990. *Omotic Language Studies*. School of Oriental and African Studies, University of London. Pp. 68-184.

Welmers, William E. 1952. "Notes on the Structure of Saho." *Word* 8: 145-162, 236-251.

Yilma, Aklilu. 1990. *Grammatical Sketch and Vocabulary of Shako*. Unpublished at time of first reading.

MOTHER TONGUE
Journal of the Association for the Study of Language in Prehistory • *Issue XV* • *2010*
Fifteenth Anniversary Issue • 1995-2010

Book Review

Lyle Campbell and William J. Poser: *Language classification. History and method.* Cambridge University Press 2008. pp. x + 536. ISBN 978-0-521-88005-3

Reviewed by Václav Blažek
Masaryk University

This book by two authors, Lyle Campbell, Professor of Linguistics at the University of Utah, and William J. Poser, Adjunct Professor of Linguistics at the University of British Columbia, consists of the Introduction (1), 11 chapters (2-12), Conclusion (13), and Appendix, where all hypothesized distant relationships known to the authors are summarized. Finally there is a copious list of References (pp. 416-507; c. 1500 titles). Poser is the author of the chapter 5 and partially of the chapters 3 and 4 and Campbell has written all other chapters and sections.

In the Introduction (pp. 1-12) the central aim of their book is formulated: to contribute to language classification, and to aid research in distant genetic relationship generally by: (1) showing how the methods have been employed, (2) revealing which methods, techniques, strategies, rules of thumb and the like have proven successful and which ones have proven ineffective, (3) finding out how particular language families were established – that is, what methods were utilized and proved successful, (4) evaluating a number of the most prominent and more controversial proposals of distant genetic relationship in the light of the methods which prove most adequate, and (5) making recommendations for practice in future research.

In Chapter 2 "The beginning of comparative linguistics" (pp. 13-31) the early period of comparative linguistics is described. As the first founding fathers of comparative linguistics Giraldus Cambrensis (1146-1220?) and Dante Alighieri (1265-1321) are named. But the following authorities preceded them and for this reason they should not be omitted:

Plato (428/427 BCE - 348/347 BCE) was probably the first scholar to mention similarity of some words between two different languages, namely Greek and Phrygian [Cratylus 410α]:

> Σωκράτης: ὅρα τοίνυν καὶ τοῦτο τὸ ὄνομα τὸ "πῦρ" μή τι βαρβαρικὸν ᾖ. τοῦτο γὰρ οὔτε ῥᾴδιον προσάψαι ἐστὶν Ἑλληνικῇ φωνῇ, φανεροί τ᾽ εἰσὶν οὕτως αὐτὸ καλοῦντες Φρύγες σμικρόν τι παρακλίνοντες: καὶ τό γε "ὕδωρ" καὶ τὰς "κύνας" καὶ ἄλλα πολλά.

> Socrates: “Well, this word πῦρ is probably foreign; for it is difficult to connect it with the Greek language, and besides, the Phrygians have the same word, only slightly altered. The same is the case with ὕδωρ (water), κύων (dog), and many other words.”
>
> [Plato in Twelve Volumes, Vol. 12 translated by Harold N. Fowler. Cambridge, MA, Harvard University Press; London, William Heinemann Ltd. 1921.]

Walafrid Strabo (808-849), a Benedictine monk, theologian and poet, preceptor of the young Prince Charles the Bald at the court of Louis the Pious, mentioned: *Gothi, qui et Getae, eo tempore quo ad fidem Christi, licet non recto itinere, perducti sunt, in Graecorum provincii commerantes, nostrum, id est Theotiscum sermonem habuerunt* “The Goths, who were also called Getae, being in the provinces of the Greek empire at the time they were brought to the Christian faith, though not by the right way, had our language, that is the Tudesque” (Budil 2010, 19).

Yehudah ibn Qurayš living in Tahort, contemporary Algeria, in the 10th cent. wrote the book *Risālah* “Treatise, Epistle” where he compared Biblical Hebrew, Mishnaic Hebrew, Aramaic, Arabic and even Berber. Ibn Baruna, living *c.* 1100 in Saragossa (Zaragoza), was the author of the *Kitāb al-muwāzanah bayn al-luɣah al-ᶜibrāniyyah wa-l-arabiyyah* “Book of comparison between the Hebrew and the Arabic language”, containing sections devoted to the comparative grammar and lexicology of Arabic and Hebrew (Schippers 1998, 60, 63). Ibn Qurayš’ contribution in the field of comparative grammar and lexicon of Semitic languages is comparable with the role of Gottfried Wilhelm Leibniz (1646-1716) for constitution of Indo-European.

Rodericus Toletanus (1170-1247), in 1208-1247 Archbishop of Toledo, the author of books *De rebus Hispaniae* and *Historia Arabum* and initiator of the translation of the Qur‘an into Latin (Marcus Toledanus, 1209-1210). He defined the territories where North and West Germanic languages were spoken in his time quite exactly: *Teutonia, Dacia, Norvegia, Suecia, Flandria, et Anglia, unicam habent linguam, licet idiomatibus dignoscantur* “Germany, Denmark, Norway, Sweden, Flanders, and England, have all one speech, though distinguished by their idioms” (see Budil 2010, 19).

Sigismundus Gelenius (1497-1554; in Czech Zikmund Hrubý z Jelení) is mentioned on p. 15. The missing information is that he was probably the first scholar to include Slavic material in comparative studies of his time – in his *Lexicum symphonum quo quattuor linguarum Europae familiarum, Graece scilicet, Latinae, Germanicae ac Sclauinicae concordia consonantiaque* [not *consonatiaque*] *indicatur* (Basel 1537), cited in bibliography. Gelenius compared Czech (and partially Croatian) with German, Latin and Greek. He concluded that among these four languages there is almost the same number of similarities in lexicon.

But the linguistic unity of the Slavs was explicitly formulated by the authors of the **Russian Primary Chronicle** written already at the end of the 11th century:

> Во мнозѣхъ же времѧнѣх . сѣли суть Словѣни по Дунаєви . гдѣ єсть нынe Оугорьска землѧ . и Болгарьска . [и] ѿ тѣхъ Словѣнъ разидошасѧ по землѣ . и прозвашасѧ именъı своими . гдѣ сѣдше на которомъ мѣстѣ . яко пришедше сѣдоша . на рѣцѣ имѧнемъ Марава . и прозвашасѧ Морава . а друзии Чеси нарекошас . а се ти же Словѣни Хровате Бѣлии . и Серебь. и Хорутане . Волхомъ бо нашедшемъ на

> Словѣни на Дунаискиѩ . [и] сѣдшемъ в них . и насилѧщемъ имъ . Словѣни же ѡви пришедше сѣдоша на Вислѣ . и прозвашасѧ Лѧхове . а ѿ тѣхъ Лѧховъ прозвашасѧ Полѧне . Лѧхове . друзии Лутичи . ини Мазовшане ини Поморѧне . такоже и ти Словѣне пришедше и сѣдоша по Днѣпру. и нарекошасѧ Полѧне . а друзии Древлѧне зане сѣдоша в лѣсѣх . а друзии сѣдоша межю Припетью и Двиною. и нарекошасѧ Дреговичи . [инии сѣдоша на Двинѣ и нарекошас Полочане] рѣчьки ради яже втечеть въ Двину . имѧнемъ Полота . ѿ сея прозвашасѧ Полочане . Словѣни же сѣдоша ѡколо єзера Илмерѧ. [и] прозвашасѧ своимъ имѧнемъ и сдѣлаша градъ. и нарекоша и Новъгородъ . а друзии сѣдоша по Деснѣ . и по Сѣли по Сулѣ и нарекоша Сѣверъ. [и] тако разидесѧ Словѣньскии языкъ тѣмже и грамота прозвасѧ Словѣньская.

> "Over a long period the Slavs settled beside the Danube, where the Hungarian and Bulgarian lands now lie. From among these Slavs, parties scattered throughout the country and were known by appropriate names, according to the places where they settled. Thus some came and settled by the river Morava, and were named Moravians, while others were called Czechs. Among these same Slavs are included the White Croats, the Serbs, and the Carinthians. For when the Vlakhs attacked the Danubian Slavs, settled among them, and did them violence, the latter came and made their homes by the Vistula, and were then called Lyakhs. Of these same Lyakhs some were called Polyanians, some Lutichians, some Mazovians, and still others Pomorians. Certain Slavs settled also on the Dnipro, and were likewise called Polyanians. Still others were named Derevlians, because they lived in the forests. Some also lived between the Pripet' and the Dvina, and were known as Dregovichians. Other tribes resided along the Dvina and were called Polotians on account of a small stream called the Polota, which flows into the Dvina. It was from this same stream that they were named Polotians. The Slavs also dwelt about Lake Il'men', and were known there by their characteristic name. They built a city which they called Novgorod. Still others had their homes along the Desna, the Sem', and the Sula, and were called Severians. Thus the Slavic race was divided, and its language was known as Slavic."
>
> [*The Russian Primary Chronicle, Laurentian Text.*
> Translated and edited by Samuel Hazzard Cross and Olgerd P. Sherbowitz-Wetzor.
> Cambridge, MA: The Mediaeval Academy of America, 1953.]

The first attempt at an etymological dictionary of a Slavic language (Czech) in the context of other Slavic languages (Church Slavonic/Croatian, Polish, 'Russian', i.e. in reality Ukrainian & Belorussian, 'Muscovite', i.e. in reality Russian), is *Knížka slov českých vyložených, odkud svůj počátek mají, totiž jaký jejich jest rozum*, Praha 1587 ["The book of explained Czech words, where they their beginning have, namely what is their sense"] by **Matouš Benešovský-Philonomus** (1550?-159?).

Also missing is **Michalo Lithuanus** (1490-1560), the first scholar to include Baltic in the circle of the compared languages, later called Indo-European. In his book *De moribus Tartarorum, Lithuanorum et Moschorum fragminax*" (published posthumously in Basileae 1615) first recognized the Lithuanian-Latin relationship. We can note his words (p. 23):

> Literas Moscovitas, nihil antiquitatis complectentes, nullam ad virtutem efficaciam habentes, ediscimus, cum idioma Ruthenum alienum sit a nobis Lituanis, hoc est Italianis, Italico sanguine oriundis. Quod ita esse liquet ex sermone nostro semilatino et ex ritibus Romanorum vetustis, qui non ita pridem desidere apud nos, videlicet ex crematis humanis cadaveribus, auguriis, auspiciis aliisque superstitionibus, adhuc in quibusdam locis durantibus, maxime cultu Aesculapii, qui sub eadem, qua olim Romam commigraverat, serpentis specie colitur et in veneratione habetur; coluntur et sacri penates, ma[n]es, lares, lemures, montes, specus, lacus, luci... [quoted after Pisani 1968, 7].

In the subsequent text Michalo Lithuanus cited more than 60 lexical parallels between Latin and Lithuanian, mostly correct (according to current IE scholarship). **Philipp Ruhig** (Pilypas Ruigys, 1675 - 1749) continued in Baltic studies. He was a translator of the Bible into Lithuanian, collector of Lithuanian folk songs and author of *Littauisch-deutsches und deutsch-littauisches Lexikon und Grammatik* (Koenigsberg: Hartung 1747) where he compared Lithuanian with Latvian and Old Prussian. He mentioned **Mathias de Mechow** (Maciej z Miechowa, 1457-1523), the author of *Chronica Polonorum* (Cracoviae, 1519/21) who had recognized four Baltic 'dialects', Lithuanian (Samogitian = Žemaitic dialect), Latvian, Prussian and Yatwingian - see Panzer 1998, 222.

In the detailed section devoted to Dutch linguists of the 16-18th cent. **Franciscus Junius** (1589-1671) should be named. In 1665 he published *Codex argenteus* (*Quatuor Domini Nostri Iesu Christi Evangeliorum Versiones perantiquae duae, Gothica scilicet et Anglo-Saxonica*), the most important manuscript of the Gothic translation of the New Testament. It is only thanks to this edition that the Gothic language was accessible for comparison with other Germanic languages. Junius also mentioned that Greek κ frequently corresponds to *h* in Germanic languages. His manuscript *Etymologicum anglicanum*, an attempt at an etymological dictionary of English, was not published until 1743.

In the section devoted to **Gottfried Wilhelm Leibniz** (1646-1716) it should be mentioned that he introduced Albanian and Armenian into 'Scythian', i.e. Indo-European, languages – see the letter CCXXV to M. La Croze published in *Viri illustris Godefridi Guilielmi Leibnitii Epistolae ad diversos, theologici, juridici, medici, philosophici, mathematici, historici et philologici argumenti*, ed. by Christian Koltholt, Leipzig: Breitkopf 1734, 408 (<http://www.archive.org/stream/viriillvstratis00vongoog#page/n430/mode/2up>): ... *MASSA est viande chez les Esclavons, ainsi cela se rapporteroit à MIX des Albanois, et MIS des Armeniens, qui signifie chair chez les uns et chez les autres* (in modern transcription Russian *mjáso*, Albanian *mish*, Armenian *mis* - all from IE **mēmso-*). The main source of Leibniz's knowledge of Albanian was the dictionary by Frangu Bardhi: *Dictionarum Latino-Epiroticum* (1635; see <http://shqiptarortodoks.com/tekste/albanologji/Bardhi_1635.pdf>).

In the 3rd chapter "Asiatic Jones, Oriental Jones: Sir William Jones' role in the raise of comparative linguistics" (pp. 32-47) the contribution of Jones to the field of comparative linguistics is evaluated in detail. The following 4th chapter "Consolidation of comparative linguistics" (pp. 48-73) is devoted to the comparative linguistics of the 19th century. In their sharp criticism of **Franz Bopp** (pp. 61-65) for his unsuccessful attempts to compare Indo-European with Malayo-Polynesian (1841) and with Georgian

(1846) the authors ignore the contribution by Bopp to the comparative grammar of Kartvelian (cf. Fähnrich & Sardshweladse 1995, 8). One might also mention that the relationship of Kartvelian languages was recognized by Güldenstädt (1787), while Brosset (1849) was the first to formulate regular phonetic correspondences between Kartvelian languages: see Fähnrich & Sardshweladse 1995, 6-8.

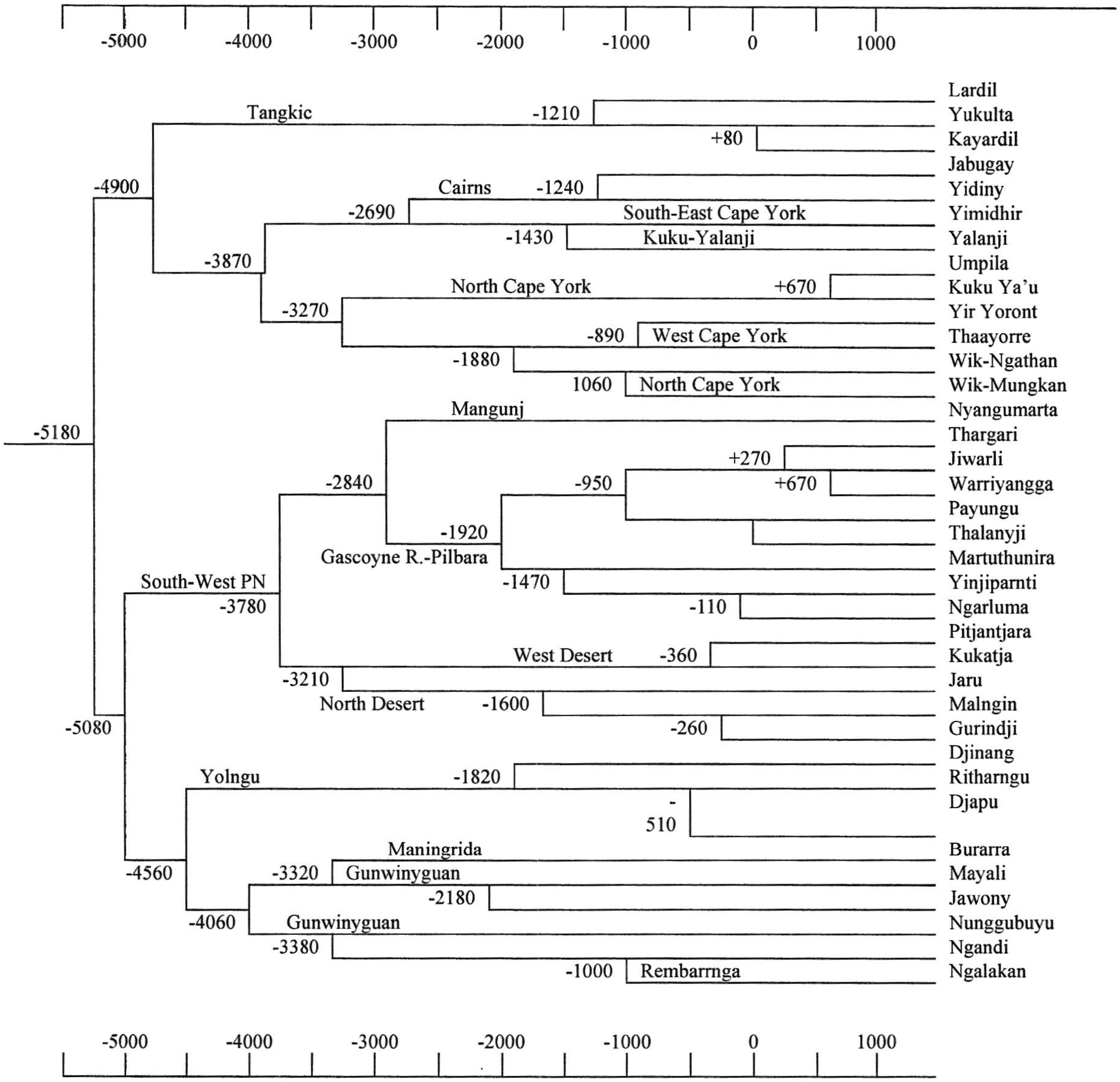
In a book on history and method of language classification, and in a section devoted to **August Schleicher** (pp. 67-68), one might expect that the main information would be about tree diagrams and proto-language reconstructions introduced by Schleicher into Indo-European comparative linguistics. But the authors inform us only about his stress on sound correspondences, while in the longest part of this section they reproach him for using the term Uralo-Altaic, though this was quite usual in Schleicher's time. Still stranger is the absence of **Ferdinand de Saussure** (1857-1913), although his explanation of Indo-European ablaut with help of a virtual *coefficient sonantique*, later identified with the sound *ḫ* in Hittite (independently by Kellogg, Kuryłowicz and Cuny), becomes a base of the laryngeal theory and represents the best example of strength of the comparative method.

In chapter 5 with a promising title "How some languages were shown to belong to Indo-European" (pp. 74-86) only three illustrative examples are demonstrated: Hittite, Armenian and Venetic. The idea of this chapter is very provocative, and one must ask why Lycian (included in Indo-European by Pedersen 1890), Tocharian (Sieg & Siegling 1908), Lepontic (Rhŷs 1914), Mycenaean (Ventris & Chadwick 1952) and other ancient Indo-European languages were not also included in this survey? The histories of the proofs of their Indo-European affiliation is even more fascinating.

Chapter 6 (pp. 87-161) describes histories of the constitution of well-established language families of Eurasia, namely Finno-Ugric/Uralic, Semitic, Austronesian, Dravidian, Sino-Tibetan, and of America: Askimo-Aleut, Algonquian, Athabaskan, Uto-Aztecan, Mayan, but also more problematic taxonomic units of Africa and Australia. Expressing doubts about the validity of such taxonomic units as **Afroasiatic** only on the basis of differences in opinion of some scholars, without analysis of concrete material, is not very scientific. The authors correctly stress the role of comparative historical phonology, but they do not mention the most convincing studies in this field, namely the works of Gábor Takács (1999-2001-2008, 2011), representing a first-class synthesis of partial results and detailed discussion of alternative models.

The same may be said about their criticism concerning **Khoisan** languages. They accept the negative conclusion about absence of regular sound correspondences among these languages formulated by B. Sands and ignore the series of studies by George Starostin (2003, 2005, 2007, 2008) in which regular sound correspondences are established, based on abundant material, including clicks. Concerning **Australian** languages, it is possible only to agree with authors that the comparative method is applicable to these languages in the same way as to languages from other areas. I would add a reference to an article by Peiros (2005), unknown to the authors, where application of the classical comparative method is excellently demonstrated. Peiros also supports the skepticism of Dixon, followed by Campbell, concerning the validity of the Pama-Nyangan (macro-)family. Applying the recalibrated glottochronology developed by

Starostin, Peiros (2009, p.c.) has demonstrated that some branches of 'Pama-Nyungan' are closer to various non-'Pama-Nyungan' families than one to another:


-5000
-4000
-3000
-2000
-1000
0
1000
Tangkic
-1210
+80
-4900
Cairns
-1240
-2690
South-East Cape York
-1430
Kuku-Yalanji
-3870
North Cape York
+670
-3270
-890
West Cape York
-1880
1060
North Cape York
Mangunj
-5180
+270
-2840
-950
+670
-1920
Gascoyne R.-Pilbara
South-West PN
-1470
-3780
-110
West Desert
-360
-3210
North Desert
-1600
-5080
-260
Yolngu
-1820
-
510
Maningrida
-4560
-3320
Gunwinyguan
-2180
-4060
Gunwinyguan
-3380
-1000
Rembarrnga
Lardil
Yukulta
Kayardil
Jabugay
Yidiny
Yimidhir
Yalanji
Umpila
Kuku Ya'u
Yir Yoront
Thaayorre
Wik-Ngathan
Wik-Mungkan
Nyangumarta
Thargari
Jiwarli
Warriyangga
Payungu
Thalanyji
Martuthunira
Yinjiparnti
Ngarluma
Pitjantjara
Kukatja
Jaru
Malngin
Gurindji
Djinang
Ritharngu
Djapu
Burarra
Mayali
Jawony
Nunggubuyu
Ngandi
Ngalakan

PN Pama-Nyungan

Peiros included in his comparison 36 well-described languages of three non-Pama-Nyungan families, representing Tangkic, Maningrida and Gunwinyguan, five Pama-Nyungan groups of the Cape York, namely North, South-East, West, Kuku-Yalanji, Cairns, further the Yolngu group, and four subgroups of the South-West group of 'Pama-Nyungan', namely North Desert, West Desert, Mangunj, Gascoyne River-Pilbara. The quantitative results by Peiros indicate closer relations of the 'Pama-Nyungan' Yolngu and South-West groups with the non-'Pama-Nyungan' Gunwinyguan family, and the Cape York 'Pama-Nyungan' groups with the non-'Pama-Nyungan' Tangkic family. Another result is that the chronological depth of disintegration of the families compared, even across the 'Pama-Nyungan' vs. non-'Pama-Nyungan' border, is relatively recent.

In chapter 7 "How to show languages are related: the methods" (pp. 162-223) the method of glottochronology is sharply criticized without any concrete arguments, only with the claim that it is rejected by most linguists. There are at least two attempts at revision of the 'classical' glottochronology developed by Morris Swadesh in the 1950s (in analogy with radiocarbon dating), which are in significantly better agreement with historical data, namely those of Sheila Embleton (1986) and Sergei Starostin (1989, in English 1999/2000). The main differences between the method of Starostin ('recalibrated' glottochronology) and that of Swadesh ('classical' glottochronology) are: slower speed of replacement 5% per millennium vs. 14% by Swadesh, transcendent function of decrease vs. exponential function mechanically transferred by Swadesh, borrowings eliminated before any calculation vs. borrowings calculated as replacements by Swadesh. The procedure for identification and elimination of loans, and likewise the procedure for identification of cognates, are based on regular sound correspondences. Simply put, all these procedures are in agreement with the principles of comparative-historical linguistics, as accepted by the authors.

Chapter 8 "The philosophical-psychological-typological-evolutionary approach to language relationship" (pp. 224-233) discusses the 'ideological' questions of development of languages.

In chapter 9 "Assessment of proposed distant genetic relationship" (pp. 234-296) the following 'macro-families' are evaluated: Altaic, Ural-Altaic, Nostratic, Eurasiatic, Amerind, Na-Dene, Dravidian-Elamite, Dravidian-Uralic, and Indo-Pacific. All are declared unconvincing (p. 296). One of the favorite arguments of Campbell is that proponents of distant relationship are not uniform in their comparisons, sound laws, reconstructions, e.g. the Muscovite school vs. Allan Bomhard in the case of the Nostratic theory (p. 244).

The same argument is used by Angela Marcantonio (2002) to express her doubts about Indo-European and Uralic. In actuality there are certain differences in reconstruction of Indo-European vocalism and laryngeals between, e.g., the Leiden school (Beekes, Kortlandt, Lubotsky and their pupils), Erlangen school (Oettinger, Eichner, Tichy), Copenhagen school (Rasmussen, Olsen), Chicago school (Hamp), California school (Puhvel, Huld), and Oswald Szemerényi (who used 'Brugmannian' reconstructions without laryngeals). And if the glottalic theory (Gamkrelidze, Ivanov, Hopper, Knobloch) or Brugmannian spirants (Witczak) are added, the reconstruction of the Indo-European protolanguage is still more difficult to unify.

The same can be said about differences in reconstruction of Turkic by the anti-altaicist Ščerbak and the 'semi-anti-altaicist' Doerfer, both apparently preferred by Campbell. Ščerbak (1970, 173-74) reconstructs only voiceless consonants in proto-Turkic, and Chuvash *l* (~ Common Turkic **š*) and Chuvash *r* (~ Common Turkic **z*) derive from proto-Turkic **š* and **s* respectively (similarly Campbell & Poser, p. 238), while Doerfer (1975-76, 34-38) reconstructs proto-Turkic **-/·* - and **-r·* -, respectively, here. Doerfer also accepts the correspondence of Khaladj *h-* ~ Common Turkic *ø* vs. Mongolic **φ-*, deriving them from **p-* (ibid. 7). According to Campbell's logic the unity of Turkic languages cannot exist. Even more surprising for Campbell could be Doerfer's (1975-76, 3-4) words:

> I must confess that in most points I enjoy agreeing with the classical [Altaic] view of such men as Ramstedt and Poppe. It is useful that new ideas have arisen and that the old views thus have been tested again and again, but I think in a quite overwhelming majority of cases the classical theory has turned out to be correct. The author of these lines has turned back to classical [Altaic] theory in many cases, e.g., in the question of Tu[rkic] *h-* < PTu[urkic] _*p-_ or in the question of rhotacism / lambdacism. In other cases he has always thought the classical [Altaic] theory to be correct.

On the other hand, rather quaint is the confession of Gerhard Clauson (1962, xii), on why he rejects the **Altaic** relationship:

> As a young man I had always accepted the theory that the Turkish and Mongolian languages were genetically related. It seemed *prima facie* probable, but I was not greatly moved by the subject; it was Turkish and not Mongolian, that interested me. But I did accept it, and so when a Romanized text of the *Secret History of Mongols*, a work that did expect to interest me, became available, I tried to read it. I did not begin to understand it, and I could find nothing Turkish about the language in which it was written. And so I came to the conclusion that the theory that the Turkish and Mongolian languages were genetically related - the Altaic theory - was almost certainly wrong.

In this perspective the fact that a knowledge of Homeric epics does not imply understanding e.g. the Avesta or Rgveda may be comparably frustrating. But does it exclude the relationship of Greek with Avestan or Sanskrit?

In his criticism of variances between **Nostratic** reconstructions Campbell mentions e.g. IE _*b^{h}end^h-_ and AA _*b-n-ṭ_ "to bind, tie", where IE $^+$*t* would actually be expected according to the sound correspondences formulated by Illič-Svityč (1968). If Campbell really knew the Nostratic dictionary of Illič-Svityč, and not only the fragments of it translated into English, he could be informed about the explanation: the expected IE root of the type $^+$*b^{h}ent-* was impossible (Illič-Svityč 1971, 194). In agreement with the rules of Indo-European phonotactics, in the protolanguage the roots of the type _*D^h-(N)T-_ / _*T-(N)D^h-_ and _*D-(N)D-_ were excluded (*N* = sonants) – see Szemerényi 1996, 99.

The same explanation is applicable to the apparent non-correspondence between IE _*· erd-_ "heart" vs. Karvelian _*m-ḳerd-_ "breast" (p. 253), where Kartvelian _*-d-_ indicates IE $^+$*-d^h-*, but the expected form $^+$· *erd^h-* was impossible. The Chadic addition, Hausa *ḳirji*, pl. *ḳiraaza* "chest" (it is possible to add Gwandara *gɨriji* id.: see Skinner 1996, 172), was supplemented by Dolgopolskij, Dybo & Zaliznjak 1973, 88 (they also added North Omotic: Koyra *ḳirṭa* "breast"), not by Kaiser & Shevoroshkin.

Campbell is right concerning the unconvincing comparison of IE _*d· oH$_1$_ "2" with Balto-Fennic _*to-ńće_ "other" (p. 252), which is of pronominal origin (Majtinskaja

1979, 182). But there are more promising cognates in Altaic **töwi* ~ **tüwi*: Türkic **düř* "equal", **[d]üŋ* "pair"; Mongolian **ǯi(w)rin* "2" (female); Tungusic *ǯöwi(-är)* "2"; Middle Korean *turh* "2"; Old Japanese *ture* "companion", and maybe in Semitic **taw'am-* "one of twins" /**taw'ām-* "twins" with an extension in *-m-* corresponding to -μ- in Greek δίδυμοι "twins" (see Blažek 1997, 176-77).

The Nostratic designation of "name" is not limited to Indo-European and Uralic (p. 253), but is also known in Yukaghir (*nim* recorded already in 1692 by Witsen in the Lord's Prayer - see Nikolaeva 2006, 312) and South Omotic: Hamer *nam-*, Banna *na(a)bi*, Ari *nami*, Ubamer *na·mi*, Galila *la·mi* "name" (Blažek 2008a, 82-83; Dolgopol'skij, Dybo, Zaliznjak 1973, 88).

The Dravidian-Altaic isogloss "tooth" (p. 253) can be supplemented by East Cushitic data: Somali *fool* "incisor, front tooth, forehead, face, brow", Boni *fóol*, Rendille *fôl* "face" (Heine 1978, 81).

Rather foreboding are Campbell's doubts about the Nostratic comparison of Fenno-Ugric **kiwe* "stone" with Chadic **kVwV* and 'Dravidian' **kw-a* id., because in reality the latter family should be Kartvelian and not Dravidian (Illič-Svityč 1971, 298). Once again we are reminded of the importantance of using primary sources.

An especially strange 'argument' against distant relationship is the impeachment of 'short forms' (pp. 249, 252), usually grammatical words including pronouns and grammatical morphemes, e.g. case endings and exponents of person. But the same 'short forms' are typical of language families whose existence is accepted by Campbell, e.g. Indo-European, Uralic, Semitic.

Concerning the external relations of **Elamite** (p. 286), I would advise the authors that Elamite has many more cognates with Afroasiatic (in both grammatical morphemes and lexicon, some with promising correspondences in Dravidian) than with Dravidian, and they are based on regular sound correspondences, though quite naturally limited by the cuneiform orthography of Elamite (see Blažek 1999b). In the section devoted to **Indo-Pacific** Campbell again squares accounts with Greenberg (as in all of the preceding chapters), while the most recent results of Timothy Usher (2002, 2005, 2006) in this field are omitted.

Especially methodological questions are discussed in the following chapters: 10 "Beyond the comparative method?" (pp. 297-329), 11 "Why and how do languages diversify and spread?" (pp. 330-363), 12 "What can we learn about the earliest human language by comparing languages known today?" (pp. 364-403).

The Appendix: "Hypothesized distant genetic relationships" (pp. 404-415) would be very useful, were it more complete. Unfortunately this is not the case. At least the following studies, frequently preceding those which were cited, or the most recent ones, should be added:

Ainu + Altaic: Helimski 1984 (sharp criticism of Patrie 1982).
Ainu + Austric (quite missing): Gjerdman 1926, 1960; Murayama 1992a,b, 1993; Bengtson & Blažek 2000, 2009.
Ainu + Indo-European: Naert 1958 stimulated interest in this comparison, although he was preceded by Koppelmann 1928; Van Windekens 1961.

Ainu + Nivx/Gilyak: Vovin 1989.
Chukcho-Kamčatkan + Uralic: Blažek 2008b.
Dravidian + Afroasiatic: Blažek 2002.
Elamite + Afroasiatic: Blažek 1999b.
Eurasiatic: Koppelmann 1933 (Shafer 1963 & 1965 uses the term 'Eurasial' for Indo-European & Sino-Tibetan).
Greater / Macro-Austric: Bengtson & Blažek 2000, 2009; Bengtson 2006.
Indo-European + Afroasiatic: Blažek 2011.
Indo-Uralic: Kronasser 1948.
Japanese + Altaic: Blažek 2009.
Japanese + Austric: Matsumoto 1928.
Nostratic: Blažek 1989-1990, 1992, 2003. Bomhard 1984 uses the title 'Nostratic', but the book is limited to Indo-European + Afroasiatic comparison.
Sino-Austronesian: Sagart 1993, 1994.
Yukaghir-Uralic: Nikolaeva 2006 with older literature.

In the book there are several misprints. The authors, who reproach e.g. Greenberg for every incorrect accent, should be more careful.

pp. 53, 94 - Dobrovsky, but pp. 62, 514 correctly Dobrovský.
p. 65 - Adriadne, correctly Ariadne.
p. 83 - Greek *eí!*, correctly *egṓ* [□γώ].
p. 166 - Greek *khara* "head" does not exist, only *kárā* [κάρ□].
pp. 239, 404, 494, 531 - Shherbak, correctly Shcherbak [Ščerbak].
p. 406 - Yeneseian, correctly Yeniseian.
pp. 407, 502 - Vaček, correctly Vacek (p. 532).
p. 438 - drevnejsego, correctly drevnejshego.
p. 444 - Hrubyè, correctly Hrubý.
p. 457 - vneshego, correctly vneshnego.
p. 496 - drevnejsaja, correctly drevnejshaja.

Judging this book only by the titles of chapters, one could be impressed, since its conception is quite provocative. The survey of history of comparative linguistics presented in chapters 2, 3 and 4 is fascinating, in spite of some omitted scholars. Chapter 5 is also informative, although rather brief.

But chapters 6-12, all written by Campbell, are biased against everyone who entertains so-called 'distant relationship', although many of these scholars are or were counted among the best specialists in their disciplines (e.g. Burrow: Dravidian, Indo-Aryan; Collinder: Uralic; Dolgopolsky: Afroasiatic; A. Dybo: Turkic; V. Dybo: Balto-Slavic; Fortescue: Eskaleutan, Chukcho-Kamchatkan; Hodge: Afroasiatic; Illič-Svityč: Balto-Slavic; Kortlandt: Indo-European; Kronasser: Anatolian; Menges: Turkic, Tungusic; Mudrak: Eskaleutan, Chukcho-Kamchatkan, Turkic; Pedersen: Indo-European; Peiros: Austric, Sino-Tibetan; Räsänen: Turkic; Shevoroshkin: Anatolian; G. Starostin: Dravidian, Khoisan; S. Starostin: Yeniseian, Sino-Tibetan, North Caucasian; Zvelebil: Dravidian).

It is especially alarming that Campbell does not know the works which he criticizes, e.g. those of Illič-Svityč on Nostratic or of Starostin on the 'recalibrated' glottochronology, but also the ideas of the scholars who are acceptable for him, e.g. of Doerfer. Campbell's criteria of validity and applicability of the comparative method are not universal, the absence of a uniform reconstruction may be ascribed not only to Nostratic or Afroasiatic, but also to Indo-European or Turkic. Finally it seems that the only arbiter of validity of any hypothetical relationship between languages or language groups is Campbell himself. Summing up, this book which is full of prejudiced judgments represents a wasted opportunity.

References

Bengtson, John D. 2006. A Multilateral Look at Greater Austric. *Mother Tongue* 11: 219-258.

Bengtson, John D. & Blažek, Václav. 2000. Lexical parallels between Ainu and Austric, and their implications. *Archiv orientální* 68, 237-258.

Bengtson, John D. & Blažek, Václav. 2009. Ainu and Austric: Evidence of Genetic Relationship. *Journal of Language Relationship* 2, 1-24.

Blažek, Václav. 1989-90. Lexica Nostratica: Addenda et Corrigenda I. *Archív orientální* 57, 1989, 201-210 & II, *Archív orientální* 58, 1990, 205-218.

Blažek, Václav. 1992. Kartvelian materials in Nostratic lexicon. New etymologies I & II. In: *Nostratic, Sino-Caucasian, Austric and Amerind* (Materials of the conference "Language and Prehistory" held at the Michigan University, Ann Arbor, Nov 1988), ed. Vitaly V. Shevoroshkin. Bochum: Brockmayer 1992, 112-128 & 129-148.

Blažek, Václav. 1999a. *Numerals. Comparative-Etymological Analyses and Their Implications.* Brno: Masarykova univerzita.

Blažek, Václav. 1999b. Elam: a bridge between Ancient Near East and Dravidian India? In: *Archaeology and Language* IV. *Language Change and Cultural Transformation*, eds. Roger Blench & Matthew Spriggs. London & New York: Routledge 1999, 48-78.

Blažek, Václav. 2002. Some New Dravidian - Afroasiatic Parallels. *Mother Tongue* 7, 2002, 171-199.

Blažek, Václav. 2003. Lexica Nostratica Addenda. *Mother Tongue* 8, 11-22.

Blažek, Václav. 2008a. A lexicostatistical comparison of Omotic languages. In: *In Hot Pursuit of Language in Prehistory. Essays in the four fields of anthropology*, ed. by John D. Bengtson. Amsterdam-Philadelphia, 57-148.

Blažek, Václav. 2008b. Chukcho-Kamchatkan and Uralic: Lexical Evidence of Their Genetic Relationship. *Mother Tongue* 13, 209-225.

Blažek, Václav. 2009. Koguryo and Altaic. On the role of Koguryo and other Old Korean idioms in the Altaic etymology. *Journal of Philology: Ural-Altaic Studies* 1/1, 2009, 13-25.

Bomhard, Allan R. 1984. *Toward Proto-Nostratic: A New Approach to the Comparison of Proto-Indo-European and Proto-Afroasiatic*. Amsterdam: Benjamins.

Brosset, Marie F. 1849. *Rapports sur voyage archéologique dans la Géorgie et dans l'Arménie*, Rapport VII. St.-Pétersbourg: Imprimerie de l'Academie imperiale des sciences.

Budil, Ivo T. 2010. John Pinkerton and his vision of ancient Scythians: "Si les Aryens n'existaient pas, il faudrait les inventer". *Acta Fakulty Filozofické Západočeské univerzity v Plzni* 1/10, 15-42.

Clauson, Gerard. 1962. *Turkish and Mongolian Studies*. London: Royal Asiatic Society of Great Britain and Ireland.

Doerfer, Gerhard. 1975-76. Proto-Turkic: reconstruction problems. *Türk dili araştırmaları yıllığı belleten* 1975-76, 1-59.

Dolgopol'skij, Aron B., Dybo, Vladimir A., & Zaliznjak, Andrej A. 1973. Vklad V.M. Illiča-Svityča v sravnitel'nuju grammatiku indoevropejskix i nostratičeskix jazykov. *Sovetskoe slavjanovedenie* 1973/5, 81-92.

Embleton, Sheila, 1986. *Statistics in Historical Linguistics*. Bochum: Brockmeyer.

Embleton, Sheila, 2000. Lexicostatistics / Glottochronology: from Swadesh to Sankoff to Starostin to future horizons. In: *Time Depth in Historical Linguistics*, 1, ed. C. Renfrew, A. McMahon & L. Trask. Cambridge: McDonald Institute for Archaeological Research, 143-165.

Fähnrich, Heinz & Sardshweladse, Surab. 1995. *Etymologisches Wörterbuch der Kartwel-Sprachen*. Leiden - New York - Köln: Brill.

Gjerdman, Olof. 1926. Word-parallels between Ainu and other languages. *Le Monde Oriental* 20, 29-84.

Gjerdman, Olof. 1960. The Ainu Language. A contribution. *Orientalia Suecana* 8, 73-91.

Güldenstädt, Johann A. 1787. *Reisen durch Russland und im caucasischen Gebürge*, Bd. 1. St. Petersburg: Russisch-Kayserlichen Akademie der Wissenschaften.

Heine, Bernd. 1978. The Sam Languages. A history of Rendille, Boni and Somali. *Afroasiatic Linguistics* 6/2, 23-115.

Helimski [Xelimskij], Eugene A. 1984. Genetičeskie svjazi ajnskogo jazyka [Review of Patrie 1982]. *Referatnyj žurnal: Obščestvennye nauki - zarubežom - jazykoznanie* 1984/4, 61-65.

Illič-Svityč, Vladislav M. 1968. Sootvetstvija smyčnyx nostratičeskix jazykov. *Ėtimologija* 1966, 304-355.

Illič-Svityč, Vladislav M. 1971. *Opyt sravnenija nostratičeskix jazykov*, I. Moskva: Nauka.

Koppelmann, Heinrich. 1928. Die Verwandtschaft des koreanischen und der Ainusprache mit den indogermanischen Sprachen. *Anthropos* 23, 199-234.

Koppelmann, Heinrich. 1933. *Die eurasische Sprachfamilie*. Heidelberg: Winter.

Kronasser, Heinz. 1948. *Zur Verwandtschaft zwischen Finnisch-Ugrischen und Indogermanisch. Frühgeschichte und Sprachwissenschaft*. Wien: Gerold und Co.

Marcantonio, Angela. 2002. *The Uralic Language Family. Facts, myths and Statistics*. Oxford-Boston: Blackwell.

Matsumoto, Nobuhiro. 1928. *Le japonais et les langues austroasiatiques*. Paris: Geuthner.

Murayama, Shichiro. 1992a. Ein Versuch der Etymologisierung einiger Ainu-Wörter. In *Nenrin - Jahresringe. Festgabe für H.A. Dettmer*, eds. K. Müller & W. Naumann. Wiesbaden: Harrassowitz, pp. 148-57.

Murayama, Shichiro. 1992b. *Ainugo no Kigen* [Origins of the Ainu Language]. Tokyo: San'ichi Shobo.

Murayama, Shichiro. 1993. *Ainugo no kenkyu* [A Study of the Ainu Language]. Tokyo: San'ichi Shobo.

Naert, Pierre. 1958. *La situation linguistique del'Aïnou. 1: Aïnou et indoeuropéen*, I. Lund: Gleerup (Lunds universitets årsskrift, N.F. Avd. 1., Bd.53, Nr. 4).

Nikolaeva, Irina. 2006. *A Historical Dictionary of Yukaghir*. Berlin-New York: Mouton de Gruyter.

Panzer, Baldur. 1998. Sprachverwandtschaft bei Philipp Ruhig (1745) und seinen Gewährsleuten. In: *Baltistik. Aufgaben und Methoden*. Heidelberg: Winter, 213-227.

Patrie, James. 1982. *The genetic relationship of the Ainu language*. Honolulu: The University of Hawaii.

Peiros, Ilia. 2005. My problems with Gunwinyguan. *Orientalia et Classica: Aspekty komparatistiki* 1 (Moskva: Rossijskij gosudarstvennyj gumanitarnyj universitet), 409-450.

Pisani, Vittore. 1968. Rom und die Balten. *Baltistica* 4/1, 7-21.

Sagart, Laurent. 1993. Chinese and Austronesian: evidence for a genetic relationship. *Journal of Chinese Linguistics* 21/1, 1-62.

Sagart, Laurent. 1994. Old Chinese and Proto-Austronesian evidence for Sino-Austronesian. *Oceanic Linguistics* 33, 271-308.

Schippers, Arie. 1998. The Hebrew Grammatical Tradition. In: *The Semitic Languages*, ed. by R. Hetzron, London - New York: Routledge.

Skinner, Neil. 1996. *Hausa Comparative Dictionary*. Köln: Köppe.

Starostin, George. 2003. A Lexicostatistial Approach towards Reconstructing Proto-Khoisan. *Mother Tongue* 8, 63-80.

Starostin, Georgij. 2005. Nekotorye aspekty istoričeskogo razvitija kliksov v kojsanskix jazykax. *Orientalia et Classica: Aspekty komparatistiki* 1 (Moskva: Rossijskij gosudarstvennyj gumanitarnyj universitet), 280-299.

Starostin, Georgij. 2007. Labial'nye kliksy v kojsanskix jazykax. *Orientalia et Classica: Aspekty komparatistiki* 2 (Moskva: Rossijskij gosudarstvennyj gumanitarnyj universitet), 353-374.

Starostin, George. 2008. From Modern Khoisan Languages to Proto-Khoisan: The Value of Intermediate Reconstructions. *Orientalia et Classica: Aspekty komparatistiki* 3 (Moskva: Rossijskij gosudarstvennyj gumanitarnyj universitet), 337-470.

Starostin, Sergej, 1989. Sravniteľno-istoričeskoe jazykoznanie i leksikostatistika. In: *Lingvističeskaja rekonstrukcija i drevnejšaja istorija Vostoka. Materialy k diskussijam na Meždunarodnoj konferencii* (Moskva, 29.V.-2.VI. 1989g.), I. Moskva: Institut vostokovedenija, 3-39.

Starostin, Sergej, 1999/2000. Comparative-historical linguistics and lexicostatistics. In: *Historical Linguistics & Lexicostatistics*, ed. by Vitaly Shevoroshkin & Paul Sidwell. Melbourne: Association for the History of Language, Science & History of Languages 3, 3-50, also in: *Time Depth in Historical Linguistics*, Vol. 1, ed. C. Renfrew, A. McMahon & L. Trask. Cambridge: McDonald Institute for Archaeological Research, 2000, 223-265.

Szemerényi, Oswald. 1996. *Introduction to Indo-European Linguistics*.Oxford: Clarendon Press.

Ščerbak [Shcherbak], Aleksandr M. 1970. *Sravitel'naja fonetika tjurkskix jazykov.* Leningrad: Nauka.

Takács, Gábor. 1999-2001-2008. *Etymological Dictionary of Egyptian*, Vol. I: *A Phonological Introduction*; Vol. II: *b-, p-, f-*; Vol. III: *m-*. Leiden-Boston-Köln: Brill.

Takács, Gábor. 2011. *Studies in Afro-Asiatic Comparative Phonology: Consonants*. Berlin: Reimer.

Usher, Timothy. 2002. The Origin of the Tasmanian Languages. *Mother Tongue* 7, 2002, 65-84.

Usher, Timothy. 2005. A comparison of Greenberg's and Wurm's classification. In: Greenberg, Joseph H.: *Genetic Linguistics: Essays on Theory and Method*, ed. by William Croft. Oxford: University Press, 261-269.

Usher, Timothy. 2006. Great Andamanese reconstruction underway: A condensed handout with tentative remarks on Papuan and Australian vis-a-vis external language families. *Mother Tongue* 11, 295-298.

Van Windekens, Albert J. 1961. Études sur l'étymologie et le vocabulaire de l'aïnou. *Orbis* 10, 411-423.

Vovin, Aleksandr. 1989. Rekonstrukcija pozdnego ainskogo prajazyka. In: *Lingvističeskaja rekonstrukcija i drevnejšaja istorija Vostoka*, 3. Moskva: Nauka, 18-20.

Acknowledgements
This study originated in cooperation with the Centre for Interdisciplinary Research of Ancient Languages and Older Stages of Modern Languages (MSM 0021622435) at Masaryk University, Brno, and thanks to the grant No. IAA901640805.

blazek@phil.muni.cz

Association for the Study of Language In Prehistory: Notices

ASLIP Council of Fellows

Due to the passing of Dell Hymes and Daniel McCall there are some openings for distinguished scholars on the ASLIP Council of Fellows. (See inside front cover for the current list of Fellows.) Council nominees should have made significant contributions to the study of language in prehistory. This is an honorary position, with no prescribed duties or obligations, though Fellows are encouraged to contribute articles, reviews, or notes to *Mother Tongue.*

ASLIP members are free to nominate people for positions on the Council. Nominations should be sent to the Secretary-Treasurer. At the 2010 Annual Meeting ASLIP member F. "Bert" Seto of Kami-Mizo, Japan was nominated to the Council of Fellows by Hal Fleming.

Bomhard Prize

The "Bomhard Prize" is a sum of money, in honor of Allan R. Bomhard, that may be awarded to a scholar or scientist whose work contributes most to unveiling human prehistory. Nominations should be sent to the Secretary-Treasurer. As of the annual meeting last October the monetary amount of the prize was $761.00.

Annual Meeting

The annual meeting of the Association for the Study of Language in Prehistory is held each year in the fall in Cambridge, Massachusetts, and all members who are able are encouraged to attend. Specific and accurate details will be provided in late summer. Contact any of the officers (see inside front cover) for information.

ASLIP Dues

ASLIP membership dues are USD 35 ($35) per annum. For any who are interested, a **lifetime membership** is now available for USD 500 ($500). Checks, money orders, or transfers may be made payable to ASLIP and sent to:

ASLIP
20 Duane Avenue
West Newton, MA 02465-1412
U.S.A.
Attn: Michael T. Lewis

For members outside of the U.S., you may pay your dues with a check in the currency that is local to you. ASLIP's bank will cash checks, money orders, and bank checks in all of your currencies. We do not accept credit cards since that would require us to pay a monthly fee. As we are a small non-profit organization, that is not advisable.

If you would prefer to transfer your payment electronically to our bank, the necessary information is as follows:

The Village Bank
1369 Washington Street
West Newton, MA 02465-2004 U.S.A.
The account name is Association for the Study of Language in Prehistory.
The account number is 9388000667.
The routing number (if needed) is 211371858

Email: lewismtc@rcn.com for comments and questions about membership dues.

ASLIP Annual Meeting 2010

The Annual Meeting of the Association for the Study of Language In Prehistory (ASLIP) was held on October 10, 2010 at the Department of Sanskrit and Indian Studies, Harvard University, 1 Bow Street, Cambridge, Mass., U.S.A.

Present at the meeting: Michael Witzel (President), John D. Bengtson (Vice-President), Michael Lewis (Secretary-Treasurer); Václav Blažek, Nicholas Davidson, Harold C. Fleming, G.R. Foote, Boris Oguibenine, Stephen Sherry.

Caley Smith and Natalia Yanchevskaya of Harvard University assisted with arrangements and refreshments.

The following officers were re-elected for the year 2011:

Michael Witzel: President
John D. Bengtson: Vice President
Michael T. Lewis: Secretary-Treasurer
John D. Bengtson: Editor of *Mother Tongue*

Václav Blažek, Harold C. Fleming, and Stephen Zegura were elected to the Board of Directors, along with the already existing Directors.

$500 was set as the amount required for lifetime membership in ASLIP.

A Committee for Electronic Publishing was formed, with Michael Lewis as chairman, and Allan R. Bomhard, G.R. Foote, and Stephen Sherry. The Committee will explore the possibilities for electronic publishing of the journal Mother Tongue.

Book Notice

The Origins of the World's Mythologies
by E. J. Michael Witzel

In this comprehensive book Michael Witzel persuasively demonstrates the prehistoric origins of most of the mythologies of Eurasia and the Americas ('Laurasia'). By comparing these myths with others indigenous to sub-Saharan Africa, Melanesia, and Australia ('Gondwana Land') Witzel is able to access some of the earliest myths told by humans. The Laurasian mythologies share a common story line that dates the world's creation to a mythic time and recounts the fortunes of generations of deities across four or five ages and human beings' creation and fall, culminating in the end of the universe and, occasionally, hope for a new world. These stories are contrasted with the 'southern' mythologies, which lack most of these features.

Witzel's investigations are buttressed by archaeological data, as well as by comparative linguistics, and human population genetics. All suggest the African origins of anatomically modern humans and their subsequent journey along Indian Ocean shores, up to Australia and southern China, around 60,000 BCE. These itinerants' early mythology survives partly in sub-Saharan Africa and points along the path - the Andaman Islands, Melansia, and Australia. Laurasian mythology, Witzel shows, developed along this vast trail, probably in southwest Asia, around 40,000 BCE. Identifying features shared by virtually all mythologies of the globe, Witzel suggests that these features probably informed myths recounted by the communities of the 'African Eve.' As such, they are the earliest substantiation of our ultimate ancestors' spirituality. Moreover the Laurasian myths' key features, Witzel shows, survive today in all major religions and their multiple ideological offshoots.

- Demonstrates the prehistoric origins of most of the Eurasian and Laurasian mythologies.
- Establishes a basis for much of our ancestral spirituality.

E.J. Michael Witzel is Wales Professor of Sanskrit at Harvard University (1987), a Fellow of the American Academy of Arts and Sciences (2003), Honorary member of the German Oriental Society (2009), and President of the Association for the Study of Language in Prehistory (ASLIP, since 1995).

Publisher: Oxford University Press, U.S.A.

At this printing the book was not yet available for purchase. Availability is projected for September 2011.

See Oxford University Press for news: http://www.oup.com/us/?view=usa

MOTHER TONGUE: Journal of the Association for the Study of Language in Prehistory

Instructions for submission of articles.

We encourage the submission of articles on historical linguistics, paleolinguistics, archeology, paleoanthropology, human biology, genetics, ethnology, or any field of study that illumines the prehistory of humanity.

Articles should be sent to the Editor, John D. Bengtson:

John D. Bengtson
5108 Credit River Drive
Savage, MN 55378 U.S.A.

E-mail: jdbengt@softhome.net

Telephone: 952-440-5538

It is preferred that articles be sent by e-mail, or by floppy disc or compact disc. Articles should be submitted in Microsoft Word (.doc) and Adobe Acrobat (.pdf) formats. If non-standard fonts are used to render special symbols, they should be attached as well.